

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIX. NEW YORK, SATURDAY, SEPTEMBER 14, 1901.

NO. 11.

SPECIAL ARTICLES.

THE PRESIDENT'S CASE.

THE sad crime that laid our President low and for a time seemed to threaten his life has occupied so much attention that we have felt that the medical profession of the country would be interested in knowing the details of the President's injury and the subsequent course of the case, not from the more or less distorted statements of the secular press, but to as great an extent as might be under the circumstances from the members of the profession who have been in actual touch with the case. The following notes are from a special correspondent sent to Buffalo to consult the surgeons in charge and as far as possible obtain information at first hand:

The Wounds.—The President's case is a striking example of how little pain may be inflicted by bullet wounds and how little conscious of their infliction the wounded person may be. The wounds were received from a distance of less than three feet. The first shot penetrated the abdomen, wounding only soft tissues, and the President seems not to have felt it at all and not to have realized what had happened. This first shot, after penetrating the anterior abdominal wall, seems to have followed a course somewhat downward and outward. The President's assailant was carrying his right arm across his chest as if it were in a sling and as he straightened it to fire the general direction of the arm was downward. This circumstance perhaps accounts for the fact that the diaphragm was not wounded, although the wound of entrance of the bullet was about two inches to the left of the umbilicus and about on a level with it (standing position).

After the first shot the revolver, as is usual with weapons of this form, kicked upward so that the second bullet hit the sternum toward its left edge and near the articulation with the fourth rib. This bullet did not even penetrate the skin, but made only a discolored, bluish, bruised mark and was found later in the President's clothing. This bullet did not hit a button or other hard substance in its passage through the waistcoat and shirt, but fortunately seems to have been one of those weak-charge cartridges that sometimes are found among ordinary commercial revolver ammunition. The revolver used was of .32 calibre, of the variety known as bulldog, i.e., with very short barrel, which favored the concealment of the weapon when carried in the hand.

There are different accounts as to how the President acted after the second shot. Practically all bystanders agree in saying that he was very little disturbed for a few moments while he

stood facing the would-be assassin. Then a look of anxious surprise came into his face and, as those near grappled with his assailant, Mr. McKinley turned somewhat pale to those beside him. The shock and pain of his wounds had thus far been so little that he had to ask those around him if he were shot. When assured that he was, one of his first thoughts seems to have been for Mrs. McKinley, and he asked a secret-service man near him whom he knew very well to see that the news be broken gently to her.

After a few moments the sight of blood and the excitement affected him, and he became weak and had to be supported. He reclined on a chair for a few moments until the Exposition ambulance could be summoned by telephone.

The Emergency Hospital.—Within ten minutes after the President was shot he was in one of the ambulances provided for emergency cases and was on his way to the Emergency Hospital on the Exposition grounds near the West Amherst gate. The director of the Pan-American Exposition Medical Department is Dr. Roswell Park. He had remarked more than once to the staff of the little hospital on the grounds that, while their small operating-room was unsuited for major operations and might never be needed for so serious a purpose, circumstances might arise in which it would be necessary to do important surgical work. There was no anticipation then of how grave and weighty an occasion would arise to test the perfection of the operating arrangements. The little operating-room, about 12 by 20, was to be the scene of the most important operation of recent years. Though small, it is reasonably well lighted and is thoroughly business-like in its air of absolute simplicity and cleanliness. How thoroughly aseptic everything about the little room was can be best judged from the post-operative course of the President's case. Great credit it would seem, now that the apportioning of commendation is in order, is due to the house staff, Drs. Hall and Zittel, and to the head nurse, Miss Walters, for the perfect condition that fortunately had been maintained.

As soon as the President arrived he was put on the operating-table, but without removing the stretcher on which he had originally been carried to the ambulance. This stretcher remained under him until after the operation was completed and served for his retransfer to the ambulance when he was moved to the home of Mr. Milburn. Dr. Roswell Park, the medical director, was at once summoned, but it was found that he was out of the city, operating at Niagara Falls. From there he came later by special train, arriving before the end of the operation. Considerable difficulty was experienced in finding Dr.

Mann. He was in a barber's chair when the urgent summons finally reached him, and left the shop, he said, with his hair only half cut.

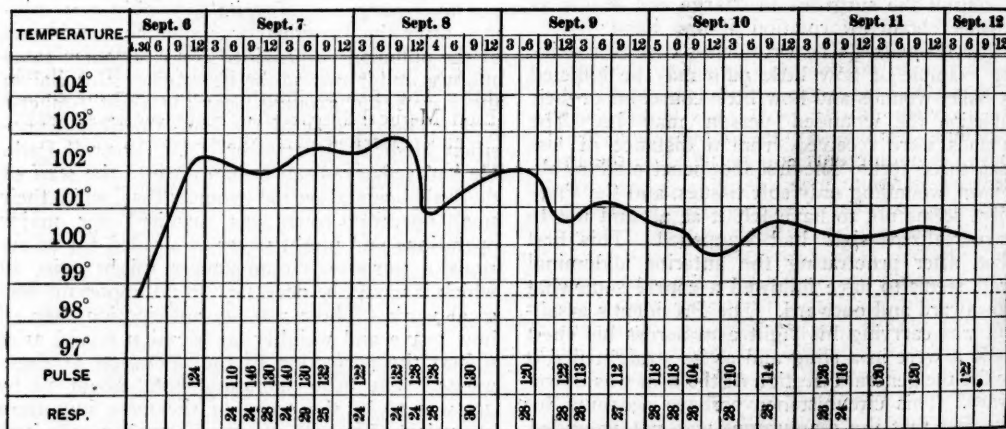
The Operation.—As soon as it was found that Dr. Roswell Park could not come at once, Dr. Matthew D. Mann was summoned by President Milburn of the Exposition. He arrived at the hospital at five minutes after five. The President had been wounded at 4:07 p. m., so that practically an hour had elapsed. Very naturally this hour of waiting seemed very long for the President. Nothing was being done nor was there the slightest inkling of what would be done. The only sign of impatience manifested by the patient came at this time. He asked if others did not find the wait intolerably long.

All delay was over as soon as Dr. Mann arrived. Examination showed that, while the wound in the thoracic wall was only a superficial bruise, that in the abdomen had penetrated the abdominal cavity. The President's condition was good;

the fact that laparotomy was of vital necessity and that every moment of delay while waiting for surer indications for surgical intervention would have been precious moments lost while infectious material was being absorbed. The stomach had been penetrated and some of the stomach contents were already extravasated into the abdominal cavity.

An opening was found in the anterior wall of the stomach in the neighborhood of the greater curvature. This opening was in the upper half segment of the stomach. Its position, small size and sharp inverted edges, and the contraction of that viscus served to keep it tightly closed. That on the posterior wall was larger and more irregular, but its edges were also inverted and the amount of leakage of gastric contents was not large. No bacteriological examination of this small amount of extravasated matter was made.

It was about three hours before his wound was received that the President had taken his lunch.



Temperature, Pulse and Respiration Record.

there was as yet no rise of temperature, the pulse was running slightly over 100 and the patient was evidently suffering slightly from shock. There had been two or more almost fainting spells and one-thirtieth of a grain of strychnine was given as a stimulant. A sixth of a grain of morphine was administered to quiet some restlessness due to the delay. The presence of a penetrating wound of the abdomen seemed to Dr. Mann sufficient indication for at least an exploratory laparotomy. As the events show, this was an extremely wise conclusion. Mr. McKinley at once accepted the doctor's opinion in the matter and expressed his entire willingness to submit to whatever treatment might be deemed necessary.

Nineteen minutes after his arrival, that is, at 5:24 p. m., Dr. Mann made his incision. The President had been given ether while the surgeons' personal preparations were making, and he took it very quietly and without excitement. The opening of the abdomen at once disclosed

It was fortunate that that meal was taken at Niagara Falls, where, according to tradition, at least lunches are not prone to be excessive in quantity. Though it was so long after lunch, the President's stomach was found about half full. The edges of the wound were repaired with Lembert sutures. The posterior wall of the stomach was then exposed by turning the organ upward and backward, avoiding any contact with the intestines, and a wound corresponding to that in the anterior wall was found. This was sutured as the other one. All extravasation was now at an end. No other visceral wounds could be found. There was practically no hemorrhage. The abdomen was thoroughly flushed out with sterile normal salt solution. As the bullet had not been found during the course of the rather lengthy manipulations (the patient was under ether about an hour and a half), further search for it was deemed inexpedient. The apparent direction of this bullet was, as has been said, away from the median line. There was no danger

that it had injured the body of a vertebra, as in Garfield's case, and the fact that there was no noticeable hemorrhage seemed to indicate that it had lodged in the muscles of the back, where it might well remain without doing any harm.

The question of using the Roentgen rays to locate the bullet is still open. Unless the ball gives rise to symptoms of irritation, however, the President will not be disturbed and the use of the Roentgen rays will be postponed until he is well on the road to convalescence. So far there has not been the slightest indication that the bullet is causing any trouble, and the indications are entirely for expectant treatment.

We here append the temperature chart prepared from the special bulletins of the case. It is to be noted that the temperature was taken by the rectum until Tuesday morning. This makes the earlier readings a trifle over $\frac{1}{2}^{\circ}$ F. higher than they would have been if taken by the mouth.

A Cutaneous Abscess.—There was a thrill of apprehension on Wednesday morning at the announcement that a second operation had been performed on the President late Tuesday night. This was not an operation, but only a dressing of the incision. For forty-eight hours before the President had been complaining of some tenderness in the neighborhood of the wound and this had not only persisted, but increased. It was thought better to investigate the cause for this discomfort. A small superficial collection of pus along the edge of the wound was found to be forming. It was noticed by Dr. Mann, who called the attention of the assistant surgeons to it while making his incision, that a small portion of clothing had been carried into the abdominal wound. It did not reach the abdominal cavity, but was found near the bottom of the fatty layer of the abdominal wall. The shreds of clothing were removed as carefully as possible, but it is a well-known experience that portions of such material are liable to be left in the wound. This Dr. Mann considers to have been the origin of the superficial suppuration that was found to exist. The collection of pus was evacuated without in any way disturbing the coaptation of the wound edges and the wound was redressed as before. As a result of the relief thus afforded the President passed a more comfortable night on Tuesday and was in excellent spirits on Wednesday, asking for the paper and wanting to talk more than the attending surgeons considered good for him. Feeding by the mouth was begun on Tuesday morning and was well borne. Since Wednesday all nourishment has been given in this way, and the rectal alimentation of the first few days, which was fortunately always satisfactorily retained and absorbed, has been discontinued.

The Outlook.—As we go to press all the surgeons in attendance are agreed that danger of peritonitis is over. There is, however, still some danger of sepsis. Wounds in civil life differ from those in military life in the greater after-danger of septic involvement. Revolver cartridges are more liable than are rifle cartridges to

have been handled frequently, to have been carried in dirty pockets, and to have come in contact with various forms of infectious materials that may prove of serious consequence when buried in the tissues. Moreover, revolver cartridges are covered with a coating of grease and this encourages an accumulation of manifold microbic material some of which may prove to be of virulently infectious nature. Rifle bullets are practically always sterilized by the intense heat developed by the powder at the moment of their discharge. Their rapid progress through the air while in a heated condition still further serves to cleanse them of any extraneous material that may chance to have accumulated on their surfaces. This cleansing process is very effectually begun by the rifling of the rifle barrel through which the bullet forces its way. All of these favorable factors are lacking in the case of the revolver bullet, and so it is possible that in any given case such a bullet may carry infectious material with it into the tissues. If this were in small amount Nature might effectually wall it off and no serious consequences result. On the other hand, such infectious material might lie seemingly dormant for days, but really slowly gathering strength by multiplication, and when its toxins were elaborated in sufficient amount they might paralyze protective chemotaxis and produce a septic condition.

Blood-counts made by Dr. Eugene Wasdin demonstrated the absence of leucocytosis. The differential count of leucocytes showed no departure from normal and the usual number of red cells was present. Thus the evidence derived from the blood-counts indicates the absence of any sepsis.

There is nothing in the President's condition at the present moment to hint at such an unfavorable possibility. He is recovering rapidly from his wound without a single disturbing symptom. He has not had any peritonitis and the danger from that is past. The disturbance of pulse and temperature noted for forty-eight hours after the operation and that were a source of no little disquiet to those who did not realize all the conditions were due to three principal factors, (1) the shock of the wound itself, (2) the shock due to the manipulation of the stomach and intestines during the operation, and (3) the disturbance of the nervous system and the shock incident to the intra-abdominal manipulations, all having been necessarily done in close proximity to the solar plexus. Dr. Mann refers most of the immediately subsequent disquiet to solar plexus irritation. This is now a thing of the past and every sign points to assured speedy and complete recovery. If the President were younger by twenty years it would be possible for him to be up and around in ten days. As it is his reaction all through the course of the affection has been that of a man much younger than his years. There is, then, really very little danger of sepsis developing and its possibility is held out by the surgeons merely in order not to seem too sure of the distinguished

patient's recovery, for, after all, stranger things have happened than a turn for the worse in cases that have apparently progressed as favorably as this.

Older surgeons would still fear from the secondary manifestations of wounds. For the military surgeons of a quarter of a century ago there would still be (at least for nine days after a bullet wound) some danger from secondary hemorrhage, for instance. As is well understood now these so-called secondary complications were really due to gradually developing septic conditions. As to secondary hemorrhage, there having been no primary hemorrhage, the danger in this respect seems more or less imaginary. The fact that the attending surgeons look to the possible development of sepsis as the only complication to be feared now shows that we have not departed as far as might seem from the point of view of older surgeons.

The possibility of such a retained bullet finding lodgment beside an artery and by pressure absorption opening the vessel and causing hemorrhage was formerly seriously entertained by the surgeons of a generation ago. It is now generally conceded that it was never the mechanical factor of pressure alone that worked harm in such cases; there was always the accessory element of septic material present on the bullet and producing preliminary tissue changes. The dangers to be feared, then, are all concentrated in the word sepsis, and for those who fear to tempt fate by too good a prognosis this is the rational method of giving hostages to fortune.

Besides the question of sepsis there remains, of course, the doubt whether the bullet may not have found its way after its course in the abdomen through the diaphragm and so be lodged in the pleural cavity. This is, as is well known, a very frequent lodgment for bullets that penetrate the stomach. The possibility of this was a great source of uneasiness to the attending physicians for the first two or three days. But there has never been any, even the slightest, interference with respiration. There has been no pain nor diaphragmatic discomfort, and now the question of the pleural cavity as the resting-place of the bullet is dismissed from all minds. As said when describing the wounds, the weapon seems to have been directed somewhat downward when the first shot was fired and this fortunate circumstance spared subsequent pleural complications and the serious sequelæ that would be almost sure to have followed sooner or later.

The Prisoner.—Owing to all that has been said in sensational journals about the prisoner as a typical criminal he comes into the medical aspects of the case. It will be hard for the criminologists to bring him under any of their classifications of innate criminality. He has a young foreign-looking face that even now, with its week's growth of beard topped by unkempt hair, is not unpleasant. He has none of the irregular features so often suggested as typical of the born criminal. There are no hints of supraciliary ridges. His eyes are

normally set and of normal size. His ears do not project more than normally and they are equal in size and set at the same level. The jaw is a little heavy, but there is a suggestion of weakness about the lips. Those in immediate custody of him in Buffalo consider him a rather ordinary-looking young foreigner, without any of the facial traits they are so accustomed to see in habitual criminals or those imprisoned for violence.

THE GARFIELD CASE: A SUMMARY OF ITS IMPORTANT FEATURES.

ON THE second of July, 1881, President James A. Garfield was shot from a distance of six feet with a large 42-caliber revolver. Two shots were fired, one passing through his coat sleeve, the second penetrating the back and causing the President to fall to the ground from the shock. He was at first taken to the second story of the Baltimore station, in which building the shooting occurred, and examined by Dr. D. Willard Bliss of Washington.

The point of entrance of the bullet, which was oval and sharply pointed, was on the right side, in the tenth intercostal space, four inches from the mid-spinal line and on a line with the eleventh rib. A slight bloody discharge oozed from the wound. A Nelaton probe was passed into the wound and, passing downward and forward for a distance of three and one-half inches, seemed to engage in a pocket, or cavity. No foreign body was detected in this cavity. On withdrawing the probe it became evident that a rib had been fractured, as the broken ends caught and held the probe, which could only be disengaged after pressure on the sternal end of the ribs. The wound was large enough to admit the little finger, but Dr. Bliss was able to feel only as far as the lower border of the rib, where his finger came in contact with a firm blood-clot. Further probing failed to find the bullet, and it was deemed advisable to desist, since it was feared that the internal viscera were injured, particularly the liver, and that fatal hemorrhage might result.

By this time Drs. Townshend, Purvis, Reymburn, Norris, Lincoln and J. B. Hamilton reached the patient's bedside, but inasmuch as severe collapse and nausea were present it was decided that no further explorations be made; temporary dressings were applied and after a short interval President Garfield was removed to the White House.

On his arrival the pulse was very feeble and rapid and of very low tension; the respirations were slow and sighing in character and the body surface was very cold. Vomiting had been free and persistent, the body was covered with profuse perspiration, the voice was husky and there were severe pains in the limbs. The patient was placed on the right side in order to facilitate drainage, water was necessary to relieve the great thirst and one-eighth of a grain of mor-

phine was administered to control the pain and to aid if possible in reaction.

The accident happened at nine-thirty in the evening and by ten the following morning the condition was as just given. One-sixth of a grain of morphine had to be given at eleven in order to relieve the excessive pain. The pulse responded very feebly to the stimulation; nausea and vomiting continued until seven in the evening of the 3d at half-hour intervals.

The clothing was not removed until 5.30 p. m. when, so great was the shock, it was decided to cut away his garments in order to minimize movement. The first examination showed a well-defined area of dulness over the entire wound surface, which was then supposed to be due to a hemorrhage from the liver and later in the evening, at 7, it was decided that, as far as could be told from the very indefinite symptoms, there was internal hemorrhage and a very unfavorable prognosis was given. At ten the pulse was 158, temperature 96.5° F., respiration 35. At eleven-twenty a reaction occurred, the pulse

Hamilton of New York were then called in consultation.

A careful and complete examination was made by each surgeon, although no operative features were undertaken. Their diagnosis was based on the following data: The angle of incidence of the ball, taking into account the relative positions of the two at the time of the shooting; the direction of the ball through the tissues, as far as the probing had been able to determine that; the severe pains and hyperesthesia of the limbs, especially of the right side, with their gradual variation; the repeated fruitless trials to pass the probe or other suitable exploratory instrument more than half an inch in any direction beyond the fractured rib except slightly forward and anterior to the twelfth rib where the probe penetrated two inches.

These facts, combined with the manifest symptoms of profound shock and the long period of collapse, all seemed to point to extensive injury of the abdominal viscera. The increased pain and hyperesthesia of the right side pointed

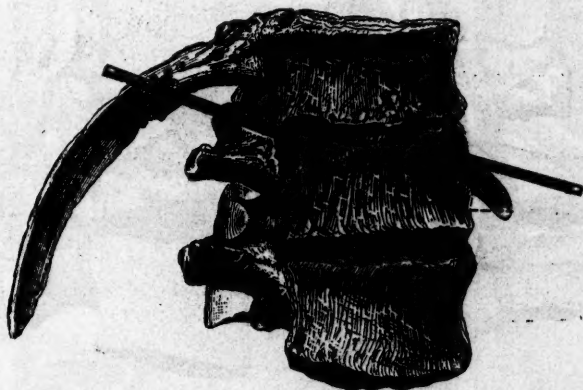


FIG. 1. Shows the course of the ball through the first lumbar vertebra, its direction being indicated by the probe.

dropped to 120 and the temperature and respiration became normal. A fitful sleep ensued and during the morning of July 4th he was feeling fairly comfortable; slight nausea and regurgitation were the only symptoms of note. All during this time the mental processes were not affected. He was perfectly rational and attended to a few business and family details without inconvenience. He was particularly anxious to know his own condition.

The wound itself gave no marked discomfort. There was much oozing of dark venous blood. On the removal of the dressing a consultation was held by Drs. Bliss, Wales, Barnes, Woodward, Lincoln and Reyburn. The pulse was then 115, temperature and respiration normal. The patient was cheerful and small amounts of morphine controlled the pain in the extremities. The intestinal and bladder functions were normal. There was some slight tympanites, but no further evidences of any peritonitis. Dr. D. Hayes Agnew of Philadelphia and Dr. Frank H.

to injury of the nerve-trunks. Injury to the spinal cord itself was excluded.

The possible course of the bullet was thought to be in one of three directions; either it had gone into and through the liver, or backward at a right angle so that it involved the spinal column, or, finally, it might have gone forward into the abdominal cavity behind the peritoneum. The first supposition, that the liver had been perforated, was excluded by Drs. Agnew and Hamilton. The second diagnosis did not seem probable, and it was deemed that the most reasonable diagnosis was that of the third alternative, although its possibility rather than its probability was upheld by Dr. Agnew.

The early progress of the case was very favorable; so much so that it was decided not to perform any radical operation, such as cutting away a portion of the fractured rib in order to trace more accurately the probable course of the bullet.

By July 4th, the pain, hyperesthesia and vom-

iting had almost disappeared, but there was still marked soreness of the feet. During the month of July the case progressed very favorably. There were slight fluctuations; thus, from the 3d to the 6th the variation of the pulse had been from 98 to 126; the temperature had risen to 102° F., and the respiration had varied from 19 to 24. On Friday of the following week, six days after the shooting, some pus had made its way to the surface of the wound, and the highest temperature of the early stages was recorded on the tenth day, it being then 102.8° F. The official bulletins at that time said that it was thought that the bullet was in the abdominal cavity, from which it was hoped it could be removed. On the 13th it was officially reported that circumscribed peritonitis had developed, although a mild amount of peritoneal inflammation had been apparent from the early stages. Notwithstanding this the President's condition remained fairly satisfactory until the evening of July 23d, when a severe chill occurred at seven o'clock. Two

On August 8th the patient was anesthetized, ether being employed, and the pus canal was opened by an incision which was carried downward and forward through the oblique muscles. On careful dissection a deeper burrowing sinus was discovered, and the incision was carried through the transversalis muscle and fascia. The results seemed to promise well for a week, although there was persistent nausea and vomiting which necessitated the continuance of rectal feeding.

It was interesting by way of comparison to note the efforts made on this and on other occasions to locate the bullet by means of Bell's bullet-finder or induction balance. On August 1st the report of Drs. Bell and Taintor was as follows: "Under the supervision of the attending surgeons, Professors Bell and Taintor this morning made another application of the electrical apparatus known as the induction balance, with a view to completing the tests of last week, which were not entirely conclusive, and ascertaining

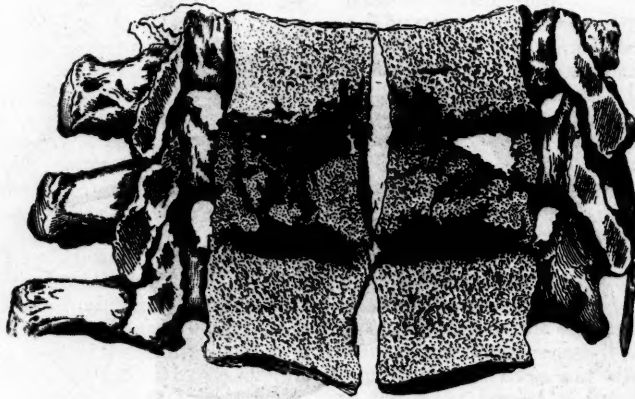


FIG. 2. Shows the above specimen sawn open.

days before this a pus sac had shown itself below the twelfth rib in the neighborhood of the erector spinæ and beneath the latissimus dorsi. It was evacuated, but the aggravated symptoms seemed to have been caused by a deeper process and a free incision was made into the pus sac, which was found to communicate with the fractured rib, a portion of which was removed. Recovery not being prompt, three days later this wound was enlarged and a portion of the eleventh rib was excised. At this time upward and backward pressure on the abdominal wall caused a welling up of a peculiar whitish and firm pus, the larger opening facilitated its removal and the symptoms abated until August 6th, when a slight exacerbation of temperature was manifested.

It was apparent that the pus had made for itself a new canal and had burrowed down behind the peritoneum and lodged in the right iliac fossa. It was also supposed that the bullet had followed this same course and that the pus sinus and bullet track would be found to be the same.

definitely and certainly if possible the location of the ball. * * * They tried this improved apparatus on the President's body for the first time last week, and although it indicated faintly the location of the ball, it was afterward found to be slightly out of adjustment, and the experiment was not regarded as perfectly conclusive. The results of this morning's tests, however, are entirely satisfactory both to Professors Bell and Taintor and to the attending surgeons, and it is now unanimously agreed that the location of the ball has been ascertained with reasonable certainty, and that it lies, as heretofore stated, in the front wall of the abdomen, immediately over the groin, about five inches below and to the right of the navel." The report of the autopsy negated these findings.

Ten days after the operation a slight parotitis appeared, this finally suppurated, involving the right facial nerve with attending facial paralysis. This local abscess soon healed and with it the mental and gastric symptoms improved, but dur-

ing the latter part of August a number of superficial acneiform pustular eruptions developed, at first in the arm-pits and later on the exposed surface of the body, indicating the much depressed vitality of the tissues. These were opened and healed rapidly. On August 26th there was a discharge of pus through the mouth and from the auditory canal. During this period there was considerable mental disturbance, although it was possible to bring him to a perfectly rational state by fixing his attention. The inflammation of the mouth extended to the trachea, larynx and bronchi, with the development of an acute bronchitis, but these symptoms ameliorated when the parotid suppuration began to discharge. On September 6th the President

President sank and died twenty-five minutes later.

On the following day a necropsy was performed by Dr. D. S. Lamb, assisted by Dr. J. J. Woodward. The results of the finding applicable to the wound showed the following: "Behind the right kidney, after the removal of that organ from the body, the dilated track of the bullet was dissected into. It was found that from the point at which it had fractured the right eleventh rib (three and one-half inches from the vertebral spine) the missile had gone to the left obliquely forward, passing through the body of the first lumbar vertebra and lodging in the adipose connective tissue immediately below the lower border of the pancreas, about two and one-half inches to the left of the spinal

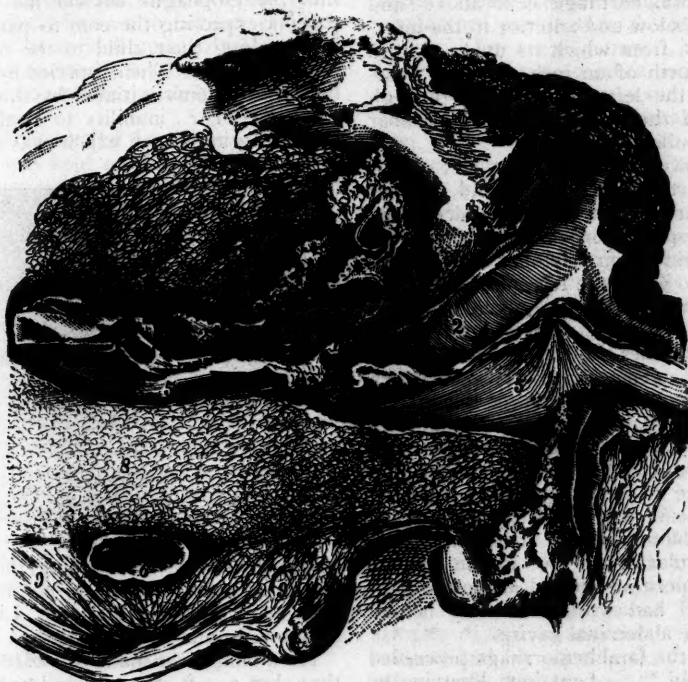


FIG. 3. Shows (1) the point at which the splenic artery gave way; (2) the splenic artery; (3) the coeliac axis; (4) the superior mesenteric artery; (5,5) the splenic vein; (6) the cyst in which the ball was found; (7,7) a portion of the mass of extravasated blood; (8,8) the pancreas; (9,9) adipose tissue behind the transverse meso-colon.

was removed to Elberon, New Jersey, in order that the invigorating air of the seashore might restore his tone and aid in recovery. He stood the journey remarkably well and progressed very favorably until the evening of the 15th, when the temperature rose after a sharp chill and the pulse to 120. With the chill violent and excruciating pains of the chest came on, to be relieved only for a time and then to recur in the paroxysms-like attacks of angina pectoris. These were due to dissecting hemorrhages. On the 18th another chill occurred, with a rise of temperature. The following morning the pulse was very rapid and feeble, the temperature 108° F., and consciousness impaired. At ten-ten in the evening unconsciousness came on and the

column and behind the peritoneum. It had become completely encysted.

"The track of the bullet between the point at which it had entered the first lumbar vertebra was considerably dilated and the pus had burrowed downward through the adipose tissue behind the right kidney and thence found its way between the peritoneum and the right iliac fascia, making a descending channel which extended almost to the groin. The adipose tissue behind the kidney, in the vicinity of this descending channel, was much thickened and congested by inflammation. In the channel, which was found almost free from pus, lay the flexible catheter introduced into the wound at the commencement of the autopsy; its extremity was found doubled

upon itself, immediately beneath the peritoneum, reposing upon the iliac fascia, where the channel was dilated into a pouch of considerable size. This long, descending channel, now clearly seen to have been caused by the burrowing of pus from the wound, was supposed during life to have been the course of the bullet.

"The twelfth dorsal, together with the first and second lumbar vertebræ and the twelfth rib were then removed from the body for more thorough examination.

"When this examination was made, it was found that the bullet had penetrated the first lumbar vertebra in the upper part of the right side of its body. The aperture by which it entered involved the intervening cartilage next above and was situated just below and anterior to the intervertebral cartilage next above and was situated just below and anterior to the intervertebral foramen, from which its upper margin was about one-fourth of an inch distant. Passing obliquely to the left and forward through the upper part of the body of the first lumbar vertebra, the bullet emerged * * * and involved the intervertebral cartilage just above.

* * * Both the first and second lumbar vertebræ were partly destroyed by ulceration.

* * * The spinal cord was not involved.

* * * Beyond the first lumbar vertebra the bullet continued to go to the left, passing behind the pancreas to its final resting-place. Here it was enveloped in a firm cyst of connective tissue which contained, besides the ball, a minute quantity of inspissated, somewhat cheesy pus, which formed a thin layer over a portion of the surface of the lead. * * * For about an inch from this cyst the track of the ball behind the pancreas was completely obliterated by the healing processes. Thence as far backward as the body of the first lumbar vertebra, the track was filled with coagulated blood, which extended on the left into an irregular space rent in the adipose tissue behind the peritoneum and above the pancreas. The blood had worked its way behind the spleen into the abdominal cavity. * * *

It was found that the fatal hemorrhage proceeded from a rent nearly $\frac{1}{10}$ of an inch long in the main trunk of the splenic artery, two and one-half inches to the left of the coelic axis. This rent must have occurred several days before death. * * * The surgeons assisting at the autopsy were unanimously of the opinion that on reviewing the history of the case in connection with the autopsy, it is quite evident that the different suppurating surfaces and especially the fractured, spongy tissue of the vertebra, furnish a sufficient explanation of the septic conditions which existed during life."

This report was signed by Drs. D. W. Bliss, J. K. Barnes, J. J. Woodward, Robert Reyburn and D. S. Lamb.

The names of Drs. Agnew and Hamilton were not appended to this report although they attended the autopsy and concurred in all the statements made.

ORIGINAL ARTICLES.

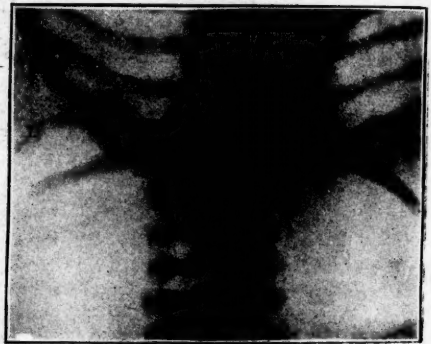
A CASE OF FOREIGN BODY IN THE ESOPHAGUS.

BY RUSSELL S. FOWLER, M.D.,
OF NEW YORK;

ADJUNCT TO THE SURGEON-IN-CHIEF TO THE BROOKLYN HOSPITAL;
ASSISTANT SURGEON TO THE METHODIST-EPISCOPAL HOSPITAL,
AND TO THE GERMAN HOSPITAL, BOROUGH OF BROOKLYN.

THIS patient was referred to me by Dr. Arthur C. Jacobson to whom I am also indebted for the medical history of the case.

Susan A., two years and two months old, enjoyed perfect health up to the evening of March 31, 1901. On this date her father, while playing with the child, carelessly allowed her to place a penny in her mouth, whence it quickly passed into the esophagus beyond his recovery. The parents expecting the coin to pass naturally, delayed taking their child to the family physician until April 4th. Then, worried by the persistence of the symptoms initiated by the swallowing of the penny, *i. e.*, inability to swallow solid food, the regurgitation of which was immediate, and



spasmodic attacks of coughing, they sought relief. No blood was coughed up, nor was there at any time any complaint of pain. Liquids could be swallowed quite easily.

No attempt was made to locate the coin at this time, but a soft diet was ordered for her in the hope that the penny would pass downward. The child was seen four days later, by which time she had become somewhat thin and pale. Swallowing had become quite easy, probably due to a change in the position of the penny. This change was so marked that the parents were disinclined to have anything further done.

At my suggestion, however, a Roentgen-ray picture was taken by Dr. Bender on April 10th. Chloroform was administered for the purpose of keeping the small patient quiet. This picture showed the penny hanging vertically in the esophagus at the level of the sternal notch. The plane surfaces were antero-posterior, forming a partition on either side of which food could pass. The transition from difficult to easy deglutition was

¹ Von Eiselsberg und Ludloff, Atlas klinisch-wichtiger Roentgen-Photo-gramme, Tafel I. und II.

undoubtedly due to the coin swinging from an oblique into a vertical position.

On April 15, the patient was admitted to the German Hospital where, with the kind assistance of Dr. Bender, I located the coin with the fluoroscope. The patient was anesthetized with chloroform, the head overhanging the edge of the table. Owing to the small size of the patient's esophagus a slender whalebone-handled coin-catcher was selected, the whalebone stem terminating in a small silver swinging basket. Even this slender instrument was passed with difficulty though no force was necessary. The difficulty was chiefly due to the stiffness of the whalebone. With the fluoroscope the coincatcher could be seen as it passed beyond the coin; then as it was withdrawn the coin could be seen to fall into one side of the basket and be carried upward with it. As the pharynx was reached the patient's head was lowered and the coincatcher with its imprisoned penny withdrawn.

The subsequent history of the case was uneventful. The child was kept on fluid food for a few days and then resumed her usual diet. No bad after-effects of any kind occurred.

I have records of three somewhat similar cases in which a Roentgen picture was taken. In all three cases esophagotomy was finally resorted to after other efforts at dislodging the coin had failed. In one case the coin was not found by operation, but appeared later at stool.

So far as my own experience goes I should recommend complete anesthesia in children; the use of extremely flexible instruments, particularly in children; the lowering of the patient's head as the foreign body approaches the pharynx to avoid the possibility of its falling into the larynx; the constant visual supervision of the instrument through the fluoroscope; and, finally, that such instrumentation should always precede any operative attempt at removal.

INFANTILE ATROPHY.¹

BY JOHN LOVETT MORSE, A.M., M.D.,

OF BOSTON;

INSTRUCTOR IN DISEASES OF CHILDREN, HARVARD MEDICAL SCHOOL;

ASSISTANT VISITING PHYSICIAN AT THE CITY HOSPITAL AND AT

THE INFANTS' HOSPITAL, BOSTON.

THE term infantile atrophy, and its synonyms, atrepsia and marasmus, should be applied only to those conditions of wasting which, in the light of our present knowledge, are primary and not secondary to other morbid processes. These cases of primary wasting form a small, but perfectly definite clinical group, easily distinguishable from the more common cases of wasting secondary to other diseases and conditions.

Definition.—Infantile atrophy is a morbid condition of infancy in which there is extreme wasting of the soft tissues of the body without demonstrable organic lesions. It is the expression of continuous, insufficient nutrition due probably to

defective absorption or assimilation rather than to defective digestion.

Etiology.—It occurs most frequently during the first six months of life, less frequently during the second six, and is rare after the first year. It is more common in cities than in the country, and among the poor than among the well-to-do. It almost never occurs in breast-fed infants. Prematurity, inherent weakness of constitution, lack of warmth, light, pure air and cleanliness are most certainly predisposing factors. Unsuitable food undoubtedly favors its development. In a certain number of cases it follows, or is engrafted on, severe intestinal disturbances, whether functional or organic. None of these things, however, afford a satisfactory explanation as to the origin of the disease. They are all common, but atrophy is rare. They all give rise to other conditions as well as to atrophy. Therefore, some other factor, presumably common to all cases and more important than these, must be present. This factor has not yet been discovered. The wasting of the tissues, which is the chief symptom of the disease, must be due, in the absence of demonstrable lesions, to an insufficient supply of nutriment. As in typical cases the processes of digestion are apparently carried on normally the source of this insufficient supply of nutriment must be some disturbance of the functions of absorption or assimilation. The nature of this disturbance of function and the causes, except as imperfectly detailed here, are at present unknown, the examination of the urine and feces having thus far failed to furnish any information of importance as to the character of the disturbances of either absorption or metabolism.

Pathological Anatomy.—The pathological findings afford little or no information as to the nature of the disease. All the tissues are dry and the fat is almost entirely wanting in the skin and about the internal organs. There is extreme atrophy of all the muscles. The heart is, as a rule, normal but may be fatty. The liver is not infrequently enlarged, and fatty. The kidneys are sometimes fatty and often contain uric-acid infarctions. These fatty changes in the various organs are undoubtedly merely secondary manifestations of the impaired nutrition. There is marked atrophy of the mucous and submucous coats of the intestines. Microscopical examination, however, fails to show any characteristic lesions. The superficial lymph-nodes are, as a rule, enlarged. The retroperitoneal and mesenteric nodes may be, but if so, show no abnormal changes microscopically. The lungs often show areas of atelectasis or the lesions of complicating bronchitis or bronchopneumonia, while the intestines may show those of a complicating catarrhal or follicular inflammation.

Symptoms and Course.—The one prominent symptom of infantile atrophy is failure to gain or loss of weight. This is the earliest and for a time may be the only symptom. It is constant and progressive. In the typical case there are no

¹ Read at the annual meeting of the Massachusetts Medical Society, June 21, 1901.

symptoms of disturbed digestion. The appetite is, as a rule, diminished but may be voracious. Thirst is increased. Vomiting is unusual. The stools are normal or constipated. The child is usually quiet and apathetic, but may be peevish and irritable. The temperature is normal or subnormal. Sooner or later complicating functional disturbances of digestion or inflammatory conditions of the gastro-enteric tract arise and add vomiting, diarrhea, colic and fever to the list of symptoms. These may be acute or chronic, temporary or lasting.

The picture of an advanced case of atrophy is very characteristic. The fontanelle is small and sunken. The bones of the skull overlap. The face is pinched, the chin pointed, the bones prominent and the skin wrinkled, especially about the mouth and forehead. A cry is distressing; a smile dreadful. The eyes are wide open and staring or half closed and dull. The cry is feeble and the movements slow and infrequent. The tongue is thickly coated or dry and red, while the mucous membrane of the mouth may show herpetic lesions or those of thrush. The skin, everywhere wrinkled, yellowish, dry and desquamating, hangs in folds from the bony prominences, as if draped over the skeleton. Pustules on the scalp and body and intertrigo about the genitalia and buttocks are common, while there is often an excessive growth of lanugo on the neck and back. Ecchymoses occur not infrequently. The abdomen is sunken and lax. The extremities are cold, the hands look like claws, and the muscles like strings. Rigidity of the extremities is not uncommon, presumably as the result of cerebral anemia. Edema sometimes occurs. Chronic otitis media is not infrequent.

Emaciation continues, the strength steadily fails, and finally the child becomes too feeble to suck. The action of the heart becomes weak and the circulation poor. The pulse is feeble and rapid, although sometimes slow. The extremities become cold and cyanotic and pulmonary atelectasis develops. The respiration is weak and superficial and the temperature subnormal. Death finally occurs after gradual, progressive failure. In some instances sinus thrombosis results from the feeble circulation and death may be preceded by spastic phenomena or convulsions. Functional and inflammatory disorders of the gastro-enteric tract are frequent and serious complications. Bronchitis and bronchopneumonia are not unusual complications, while an acute, general, bacterial infection often brings the disease to a sudden close.

The urine is usually diminished in amount and contains an excess of both urea and uric acid. It not infrequently contains albumin and sometimes sugar. The blood shows the conditions ordinarily found in secondary anemia. In some cases there is also a moderate increase in the number of white corpuscles.

Diagnosis.—The condition is to be differentiated from starvation, wasting secondary to

functional or organic disease of the stomach or intestine, congenital syphilis and disseminated tuberculosis.

The differentiation from starvation due to congenital deformities is self-evident; that from starvation due to insufficient but suitable food is also plain. The rapid gain when sufficient food is given will settle any doubt. That from starvation due to food of improper character can usually be readily made by a careful consideration of the food in question and by the rapid improvement when a suitable food is given.

The differentiation from gastro-intestinal diseases associated with wasting must often be a difficult one, as infantile atrophy is frequently complicated by them. In them, however, the wasting is not the one prominent symptom, as it is in infantile atrophy. It is, moreover, not the earliest but a late symptom, always following other symptoms of gastric or intestinal disturbance. Vomiting and diarrhea are more common. The stools show evidences of indigestion and inflammation not present in those of infantile atrophy. The abdomen is, as a rule, distended. The temperature is usually elevated. There is fretfulness and sleeplessness instead of apathy. The course is not so progressively and uninterruptedly downward. Infantile atrophy in the vast majority of cases occurs in the first six months and rarely after the first year; the other conditions occur at any age.

The history of syphilis in the parents and the presence of other signs of syphilis, active or inactive, make the diagnosis from syphilis with emaciation easy.

The differentiation from disseminated tuberculosis, however, is frequently difficult and at times almost impossible, for in the tuberculosis of infancy the local symptoms are, as a rule, subordinate to the general. A family history of tuberculosis or of continued exposure is of certain but not of great importance. So also is a doubtful milk supply. The temperature is likely to be elevated in tuberculosis, but is not always. On the other hand, in some cases of infantile atrophy, especially if complicated, there is fever. Diarrhea cannot be considered as pointing especially to tuberculosis of the intestines, as it may as well be due to some complicating condition. Enlargement of the spleen is in favor of tuberculosis. Enlargement of the liver may occur in either. Râles are almost always present in the lungs of cases of atrophy as the result of congestion or edema or of a complicating bronchitis. Solidification of the lung is the most important point in the differential diagnosis, except in the rare instances in which tubercle bacilli can be demonstrated in the sputum or feces. Even solidification, however, may be due to a complicating bronchopneumonia.

Prognosis.—The prognosis is always grave. Most of the cases result fatally. If recovery takes place it is always slow and is usually interrupted by frequent relapses. When recovery takes place, however, it is complete and the

future development is not interfered with. Complicating functional or inflammatory disturbances of the gastro-enteric tract render the prognosis still more grave, as do diseases of the respiratory tract. Other diseases occurring in infants with atrophy carry a very bad prognosis. Secondary general bacterial infections always result fatally.

Treatment.—There is no known drug which has any specific action in infantile atrophy. As the condition is presumably due to some vice of absorption or assimilation the treatment must necessarily consist largely of regulation of the diet with the object of providing some food which can be easily absorbed and utilized by the individual infant. The same food will not fit every case. The best food and the one which is always to be tried first, if circumstances permit, is human breast milk. The best substitute for it is some modification of fresh cow's milk, prepared either at the laboratory or at home. Although there are no data based on scientific experiments to suggest in what way cow's milk should be best modified for these cases, clinical experience has shown that, as a rule, they do best on milks which contain a low percentage of fat, a moderate percentage of sugar and a moderate or somewhat high percentage of proteids. For some unknown reason they seem unable to utilize any but small amounts of fat and continue to lose if large quantities are given. Hence the treatment by large doses of cod-liver oil is not only useless but harmful. They do seem able, however, to make use of considerable amounts of proteids. The proportions which are best suited for the early treatment of the majority of these cases lie within the following limits:

Fat	0.50 to 1.00
Sugar	4.00 " 5.00
Proteids	1.00 " 2.00

Whey mixtures, furnishing, as they do, a considerable proportion of the proteids in the form of the more easily digestible and absorbable lactalbumin, are especially useful in giving these high percentages of proteids. Unfortunately, their preparation outside of the laboratory is decidedly difficult. A portion of the proteids may also be added to the milk mixtures in the form of egg-albumin, which is more easily absorbable than the milk proteids. Peptonizing the milk mixtures is also often useful.

While the proportions just given are those best suited to the average case, many do not do well on them. In such cases various modifications must be tried until one is found which suits the individual infant. Unfortunately, it is not infrequently impossible to find such a modification and the infant continues to lose and finally dies. In cases which improve it is usually possible to gradually increase the amount of fat in the food and finally work up to the proportions which are suitable for a normal child of the same age. In beginning treatment it is best to give small amounts of food at short intervals. It is often advisable to give proteids apart from milk. They

are best given in the form of egg-albumin or beef-juice. Somatose, in doses of five or ten grains, mixed with water, is also useful.

Due attention must be paid to cleanliness and to the maintenance of an unusual supply of fresh air and sunlight. It is especially important to keep up the body temperature, as the vitality of these infants is very low. They must not be handled more than is absolutely necessary and all excitement must be avoided. No point in the hygiene and nursing of these cases is so small as not to be of importance. Stimulation, preferably in the form of brandy or whiskey, is often necessary. Complications must be treated as they arise.

THE TREATMENT OF CYSTITIS.¹

BY CHAS. CHASSAIGNAC, M.D.,

OF NEW ORLEANS;

PROFESSOR OF GENITO-URINARY AND RECTAL DISEASES, AND PRESIDENT OF THE NEW ORLEANS POLYCLINIC, ETC.

THE treatment of inflammation of the bladder depends to such an extent, in any given case, upon the form of inflammation to be dealt with that it is essential to consider the classification and etiology of the various clinical types of the disease. The principal ones are as follows: (1) Gonorrheal cystitis, (2) tuberculous cystitis, (3) cystitis of urethral stricture, (4) cystitis of prostatitis, (5) cystitis of calculus, (6) cystitis of tumor, (7) traumatic cystitis, (8) cystitis by direct infection, (9) descending cystitis, and (10) cystitis from ingestion of certain irritants. A mere enumeration of them suggests what is in all cases the first indication, namely, the removal of the cause when possible. However, before taking them up *seriatim*, it will be useful to study briefly the general indications applying to a greater or lesser degree to all forms of cystitis.

Rest.—In all instances quiet is of great utility. The more acute the case the more important is rest, preferably in the recumbent position, unless the base of the bladder chiefly is involved, when the patient may be more comfortable propped up in bed. Pressure on the bladder can be removed by causing the knees and thighs to be flexed. Under the head of rest should be included the avoidance of sexual intercourse and excitement of any kind.

Diet.—Bland food should always be insisted on. In very acute cases milk diet or a bread and milk diet is the most satisfactory. In less severe or more chronic cases, when a more liberal bill of fare can be allowed, very rich dishes and highly seasoned food should be strictly forbidden. Rhubarb, sorrel, asparagus, and truffles are considered harmful. Alcohol in any form is to be strictly prohibited. The patient should be encouraged to drink a large quantity of water in order to render the urine as bland and unirritating as possible. Alkaline waters are usually preferable, notably French Vichy and good lithia waters. Sugars and sweets are to be used only in

¹ Read before the Louisiana State Medical Society, 1901.

moderation. Tea, coffee, and tobacco should be avoided, if possible.

Laxatives.—The bowels should be kept gently open by means of mild laxatives and their condition must be watched, especially when opiates have to be administered. Any drug can be resorted to which acts gently on the patient, it being advisable to change the preparation from time to time if something has to be given often. Enemas are very useful and should be used either in conjunction with laxative remedies or to replace them.

Baths.—Hot baths, full or only to the waist, are of great utility by producing relaxation and relieving tenesmus. They should be given frequently, but should not be protracted. They assist also in diluting the urine by causing some absorption of water.

Hot Applications.—Heat applied over the bladder by means of water-bags, or poultices, or compresses wrung out of hot water, produces a great deal of comfort, diminishing pain, tenesmus, and frequency of micturition. Hot-water enemas serve the same purpose, in addition to unloading the bowels.

Intravesical Irrigations.—Frequent washing of the bladder with warm, mild antiseptic fluids often prove curative as well as palliative. They can be made either by means of the catheter or by the Janet method directly through the urethra by pressure into the bladder. I am partial to the latter on account of its convenience and also because contact with any sort of catheter is likely to prove painful and irritating. In either instance, mild solutions should be used with great care. In acute cases the bladder should never be distended. Fluid should be allowed to run in only to the point of toleration, then evacuated, after which more can be introduced and expelled in succession for a number of times, unless pain is provoked. In chronic cases more in proportion can be allowed to enter, as the bladder is a little more tolerant and it is often useful to bring about a gradual distention of the bladder; the injection or irrigation then becomes a sort of gymnastic exercise.

Alkalines.—Their administration is useful in neutralizing the normal acidity of the urine, hence diminishing its irritating properties. They should not be pushed beyond producing neutral urine and should be omitted in cases in which the urine is already alkaline. Citrate of potassium, benzoate of sodium, and the alkaline waters already mentioned are probably the most valuable.

Anodynes.—The sensitiveness of the bladder and its frequent contraction from inability to retain any amount of urine provoke a good deal of suffering, particularly in acute cases, and the administration of anodynes becomes imperative. If the remedy can be given by the mouth, a good combination is codeine with hyoscyamus; to this can be added mild diuretics or any special medication indicated. If there is nausea or other contra-indication to administration by the mouth, suppositories of opium and belladonna can be in-

troduced into the rectum at reasonable intervals; they act as a rule very promptly and efficiently, partly no doubt from their propinquity to the diseased organ. The danger of leading to a drug habit must be borne in mind, especially in cases having a tendency to chronicity, and the constipating effects must be combated as already mentioned.

Antiseptics Internally.—Most of the so-called urinary antiseptics can serve us in the majority of cases. They must be given cautiously in order not to cause irritation of the stomach and especially of the kidneys. Their relative value has been frequently discussed of late and the most effective are generally thought to be salol, urotropin, boric acid, and benzoic acid (or benzoates). Salol and boric acid in combination are my favorites. Urotropin may be added or used alone. It is often effective, but may provoke or keep up frequency in micturition.

All the above remedial measures are useful in all forms and at all stages of cystitis. They are more imperatively indicated in the acute cases and in the most acute have to be relied upon to produce a modification of the inflammation and the most painful symptoms before more special medication can be resorted to. This being understood, we can review rapidly our clinical classification and study special indications. The latter cannot be much more than mentioned as any detailed consideration would lengthen this paper to an unwarranted extent.

Gonorrheal Cystitis.—The inflammation is nearly always due to the invasion from the urethra of the gonorrheal poison. Hence, in addition to general measures already mentioned, our efforts should be directed toward the inhibition or destruction of the specific organism. By the mouth we can give salol, the salicylates or boric acid. Oil of santal usually proves soothing, as it does in the urethra. Locally, irrigations of hot solutions of potassium permanganate are about the most satisfactory. At first, small quantities at a time should be used and the solution should be very mild, 1 to 10,000 or 8,000 at most; as improvement is manifested, the palliative measures can be gradually dispensed with and the quantity and strength of the solution can be progressively increased.

Tuberculous Cystitis.—By the mouth, the preparations of creosote are indicated, in addition to general tonics that are not distinctly stimulating. Irrigations with solutions of bichloride of mercury and nitrate of silver have been recommended, as well as instillations of small quantities of strong solutions of the latter. Injections of emulsions of iodoform have been found useful. The possible benefits from change of climate and from the exhibition of some of the modified tuberculins, as in other manifestations of tuberculosis, should not be neglected. The prognosis, however, is not good. If a cystoscopic examination should reveal the presence of ulceration, the patient's general condition being fair, a suprapubic cystotomy would be indicated in the

male. This will facilitate curettage and topical applications; the latter procedure and the applications can be made in the female after dilatation of the urethra.

Cystitis of Urethral Stricture.—The constriction, impeding the normal outflow of urine, increases the contractions of the *detrusor urinae* and produces congestion; partial retention usually occurs to aggravate matters and the inflammation which always exists in the urethra back of the constriction readily spreads to the bladder proper. In addition to general measures, treatment of the stricture includes everything. According to circumstances, gradual dilatation, electrolysis, internal urethrotomy, or external urethrotomy can be selected. Complete evacuation of the bladder must be assured promptly; the more severe the cystitis and the longer its duration, the more we should incline toward operative measures and do them promptly and radically.

Cystitis of Prostatitis.—This is analogous to that produced by stricture of the urethra and the indications are the same, except, of course, that the operative measures must be directed to the prostate. The latter can be enucleated, preferably by the combined suprapubic and perineal method, or can be acted upon by the cautery after the method of Bottini. Much can be done in palliation by relieving the bladder of residual urine by means of careful catheterization at proper intervals, by irrigations, and by the cautious administration of urinary antiseptics.

Cystitis of Calculus.—Removal of the offending body either by lithotripsy or suprapubic cystotomy is the treatment. If the cystitis is very pronounced and of long standing, we have a strong argument in favor of the cutting operation.

Cystitis of Tumor.—If the case is operable, removal of the tumor by the most available route and method removes the cause and general measures do the rest. If the tumor cannot be successfully removed, palliation alone is possible. In malignant tumors, if circumstances justify it, the bold surgeon can consider the removal of the bladder with transplantation of the ureters, but these growths almost invariably recur.

Traumatic Cystitis.—This form of cystitis is due to injury from external sources, such as gunshot, incised or punctured wounds, lacerations from fragments of fractured bone, or to internal injury, such as violent instrumentation, and the treatment must be based upon the principles of general antiseptic and aseptic surgery. The special indication is to keep the organ well drained in order to avoid complications due to leakage of urine. General measures already mapped out are useful and often necessary.

Cystitis by Direct Infection.—As this is generally provoked by the entrance of a poison of some sort directly into the bladder by means of an unclean catheter, bougie, searcher, trocar, or cystoscope, the special feature is more in the direction of prevention than of cure. All vesical instruments, and all urethral instruments as well,

should be thoroughly sterilized before introduction. The urethra should be thoroughly irrigated, the glans and meatus receiving careful attention. The surgeon's hands should be surgically clean. Special attention should be paid to the lubricant used. After harm is done, ordinary measures will suffice, adding thereto any special feature made necessary by the character of the infection if such be specific. As an illustration of my meaning, I may cite a case of cystitis caused by the introduction of a sound previously used in a case of chronic gonorrhea and not properly sterilized. Such would necessarily have to be treated like any other attack of gonorrheal cystitis. The bacillus coli communis has been known to infect the bladder by direct penetration therein. Antiseptic irrigations, assisted by general measures, control the inflammation.

Descending Cystitis.—Inflammation in the kidney, the ureter, or both, traveling downward finally invades the bladder, or the secretion itself directly produces cystitis which, be it said parenthetically, often clouds the diagnosis as much as the urine. Treatment of the bladder can only give temporary results. A cure can follow only a healing of the ureter and kidney or the removal of same if necessary.

Cystitis from Irritants Taken Internally.—This form is easily controlled by a discontinuance of the drug or other offending substance and by the general measures to which allusion has repeatedly been made. Turpentine and cantharides are most likely to offend. Their use internally or over the skin must be watched and must be discontinued at the first sign of vesical irritation. A sometimes puzzling manifestation of the effects of cantharides follows the enjoyment of papabotes (a southern sand-piper) that have indulged in a copious meal of Spanish flies. I have frequently seen patients, otherwise well, very much alarmed by a sudden and severe attack due to this cause.

MEDICINAL TREATMENT OF DIABETES MELLITUS.¹

BY ARCHIBALD DIXON, M.D.,
OF HENDERSON, KY.

SINCE the classical monograph of Von Noorden and the exhaustive articles by Pavy, Williamson and Naunyn, it would be not only an act of supererogation but also one of extreme vanity to attempt to discuss the subject of diabetes mellitus in all its phases. It will suffice to say that diabetes "is a disorder of nutrition in which sugar accumulates in the blood and is excreted in the urine, the daily amount of which is greatly increased."

The cause of the disease may be briefly stated as due to altered or faulty metabolism. I shall not take up the general treatment of this most intractable disease, but will merely give some results which have followed the administration of

¹ Read before the Ohio Valley Medical Association, Henderson, Ky., May 13, 1901.

a certain remedy to a number of patients in my charge.

In speaking of the treatment of diabetes even from a medical standpoint, one can hardly afford to ignore the question of diet. The main object to be accomplished is the reduction of the carbohydrates as far as may be. It is not possible to do this absolutely for any length of time, nor indeed do I think it necessary, but by a careful selection of food the amount of starch taken can be reduced to a very small quantity. It is, of course, necessary in each case to write out and give to the patient careful directions as to diet, but we all know how distasteful a strictly diabetic diet becomes and how difficult a matter it is to confine a patient to it, in fact, I think this is rarely, if ever, done, except in cases of exceptional severity when the patient is himself alarmed. In mild cases when the amount of sugar is small and is, as so often happens, associated with gout, all that is needed is that the patient be given a diet suited for that malady. We often encounter cases in which although much starch occasions glycosuria, a small quantity will not do so, the amount of the disturbance of the glycogenic function being slight. It is therefore important to discover in case of any individual patient how much, if any, starch he can consume without increase of sugar in the urine. He should be allowed to take a certain small quantity of starchy food and if no increase of sugar results a little more may be given, and in this way we may learn what quantity of starch it is safe to give. In a number of my cases there was no strict adherence to rules of diet, and in two cases the patients took both bread and potatoes and other interdicted things as well.

One or two successful cases are not enough to warrant judgment of the merits of any drug; case after case must yield to it after obstinately resisting other therapeutic measures before we can confidently state its worth. If a remedy can be found to control the excessive loss of fluid which is going on in diabetes and to improve the general condition of the system, in other words, to correct a faulty metabolism, we may reasonably hope, with a careful diet and regimen, to prolong life for many years in comfort, if not to cure disease itself. Such a remedy I believe we have in a combination of bromide of gold and arsenic. It is probable that the deductions made by Stucky after many experiments are correct and that in the combination of gold and arsenic we have an agent which is a direct cerebrospinal stimulant, one that stimulates the capillary system though its action upon the central nervous system thereby being indirectly a heart stimulant. By this combination there is developed an action entirely different from either gold or arsenic separately so far as we know at this time, which by its glandular stimulating properties aids elimination, feeds the nervous system, thereby checking waste, stimulates the cord, brain, and glandular system, thereby stimulating digestion, and by

its reconstructive power lessens disturbances of metabolism.

The results obtained in the following cases go far toward establishing as facts the claims made.

Case I.—G. B., aged fifty-eight years, former railroad man, experienced good health till the fall of 1899, when he began to notice a lack of energy and an increased action of his kidneys; however his appetite was good and he slept fairly well and perhaps gained in flesh. In April, 1900, he was told by a medical man that his kidneys were sound, although at this period he passed an excessive quantity of urine. For many years he was addicted to drinking a great deal of beer, but had lately reformed. During the summer he became very weak and languid, lost flesh and had no appetite. In November last, when I saw him for the first time, he was so feeble that he could with difficulty walk across the room and was very worn and emaciated. He was afraid to eat from the extreme flatulence and inability to digest food. The action of the heart was weak. The liver was appreciably enlarged and there was considerable fluid in the peritoneal cavity. The superficial veins of the abdomen were enlarged, the legs were anasarcaous, shining and pitting on pressure. The specific gravity of his urine was found to be 1045 and it was loaded with sugar. During the day and night he passed about twelve pints of pale straw-colored urine. Nitro-muriatic acid, with taraxacum and gentian, was ordered and he was directed to drink a little Scotch whiskey and water. In addition he was to have $\frac{1}{2}$ grain of codeine night and morning, which was to be gradually increased till effect. December 10th, as he was not making any satisfactory progress, I prescribed arsenauroid in 5-drop doses three times a day, to be increased 2 drops each day until further orders. In ten days a remarkable change for the better had set in; the urine was reduced in quantity and the appetite and strength improved. He was now taking 23-drop doses 3 times daily, which was directed to be continued without further increase.

URINE PASSED IN TWENTY-FOUR HOURS.

Date.	Quantity.	Specific Gravity.
Nov. 12, 1900.....	12 pints,	1045
Dec. 10, 1900.....	11 "	1040
Jan. 14, 1901.....	6 "	1030
Jan. 28, 1901.....	5 "	1024

February 3d.—He has increased fifteen pounds in weight and looks altogether another man. His liver is greatly reduced in size and the abdominal veins are much less prominently marked. No fluid can be detected in the cavity of the abdomen and the tympanites is very slight. There is scarcely a trace of edema in the legs.

In March the patient was so far improved as to consider himself well.

Case 11.—H. L., coal-dealer, aged forty-seven years, was seen by me December 11, 1900. He had all the essential symptoms of diabetes, polydipsia, polyuria, polyphagia, and in addition he complained of headache, pains in the lower extremities, dryness of the mouth, etc. Knows nothing of his family history; formerly drank to excess, but has been strictly temperate for the last ten years. Urinary examination: Specific gravity, 1039; sugar present in large quantity; albumen, none; quantity passed in twenty-four hours, 8 pints. He was given the usual instructions in regard to diet and bromide of arsenic and gold ordered in 5-drop doses three times daily, each dose to be increased 2 drops for a week, at which time he was to report.

December 28th.—Urine passed in twenty-four hours, 5 pints; specific gravity 1030, sugar present, but in reduced quantity; thirst greatly lessened and other symptoms improved.

There was steady and continued improvement in this case and the latter part of February, 1901, he was discharged, with instructions as to restrictions in diet. During almost the entire treatment the patient had eaten potatoes and violated the rules laid down by eating ordinary bread frequently. At the time of writing he says he is perfectly well.

In 1877 Lancereaux demonstrated the existence of a form of diabetes mellitus found in conjunction with pancreatic lesions. This, he claimed, constituted a special and distinctive variety of diabetes characterized by considerable emaciation, with polydipsia and polyphagia, by peculiar alvine evacuations, and especially by a very rapid evolution. The study of Lancereaux has been made the basis of further investigations which have led to the discovery of new facts in this connection.

Various kinds of pancreatic alterations may be regarded as leading to this kind of diabetes. They may be primary lesions or they may be the secondary result of the presence of calculi or they may be caused by compression of the ducts due to neoplasms. In all such cases there appears to be a total abolition of the pancreatic function. This suppression of a digestive function is revealed by special symptoms which may occur previous to the usual diabetic phenomena; these ordinarily consist of grave intestinal disturbances, vertigo, vomiting and frequently jaundice. True, these symptoms after a while disappear, but they leave the patient in a condition of profound debility.

Soon, however, the essential symptoms of the disease begin to manifest themselves and are rapidly established, reaching an acme in a few weeks or months. Diarrhea is often if not always present, the stools having a greasy, creamy appearance. Emaciation is rapid and in a few months the patients lose successively their physical, intellectual and genital powers. Then complete prostration and profound marasmus set in, to which there is often added hectic fever with symptoms of consumption.

The theory of Lepin  of Lyons is that the pancreas produces a ferment which enters the circulation and causes a breaking-up of the grape-sugar molecules within the blood. He calls this "glycolytic ferment." After extirpation of the pancreas this ferment is not present; the sugar therefore accumulates undestroyed in the blood, and from this hyperglycemia so produced glycosuria results. Mering and Minkowski do not accept this theory *in toto*, but after excluding all other possibilities formulate the following hypothesis: "Either some substance which has an injurious influence upon the conversion of sugar collects in the organism after extirpation of the pancreas, or else after this operation there is some substance wanting, or some function is abolished which under normal conditions serves to facilitate the conversion of carbohydrate bodies."

The following is a typical case:

Mrs W., aged fifty-nine years, Jewess. Father died from kidney trouble; other family history unknown. Consulted me October 29, 1900, for a diarrhea which had been present for some time and which had resisted the ordinary home treatment. The stools were described by her to be frequent, painless and not large, greasy and creamy in appearance. Latterly the stomach had become disturbed and there was occasional vomiting. She also complained of swimming in the head and there was slight jaundice. Tongue was clean, red and slick; abdomen tympanitic and the area of liver dulness larger than normal. Appetite was fairly good, but there was progressive loss of flesh and energy. Gastro-intestinal indigestion was diagnosed and appropriate treatment given. High enemas were ordered to be taken daily and strict rules of diet urged. Improvement was slow and unsatisfactory; loss of weight continued, though not so rapidly as before. In December the diarrhea became much better and there was less gastric disturbance; the jaundice had disappeared and there was only occasional vertigo, slight in character.

I saw this patient no more until January 15, 1901, when she again consulted me, but for an entirely different set of symptoms. She now complained of great thirst, parched mouth and excessive micturition; in fact, she gave all of the essential symptoms of diabetes. Upon examination the urine was found to have a specific gravity of 1042 and sugar was present in large quantity—3 per cent. She complained of great weakness and was irritable and cross. An especially annoying symptom was excessive and almost constant pruritus due to eczema of the vulva.

Treatment was bromide of gold and arsenic (arsenauro), 5 drops after each meal, to be increased 2 drops to the dose each day. She was given the usual written directions as to diet. Notwithstanding flagrant violation of orders, the patient eating ordinary bread and potatoes in addition every day, the improvement in her case was marked. The decrease in the quantity of urine passed and in the amount of sugar present was evident the first week. In three weeks there

was barely a trace of sugar and the urine was much reduced in quantity.

March 15th.—Urine normal in quantity; sugar, negative. The eczema has disappeared and there is no pruritus. Patient much improved in strength and has gained seventeen pounds in weight; says she is well and to all appearances is so. She was dismissed with instructions to continue the drug in 5-drop doses, three times daily for a month, and to avoid carbohydrates for six months.

The number of drugs which have been recommended in the treatment of diabetes is legion—an evidence of the small benefit of any individual one. Even the most optimistic believers in materia medica, rendered cautious by oft repeated disappointments, become skeptical when any one praises a remedy for diabetes. The question is not whether many drugs are not useful and even necessary in diabetes in order to meet one or another of the special indications or to combat the complications, but rather whether we possess any remedy which can increase the energy of the sugar-destroying function. It often seems as though we did possess such a remedy in the combination of gold and arsenic, but favorable results are rarely observed when the rule of making no change whatever in the diet either before, during or after the administration of the remedy under trial, is strictly adhered to. A number of patients under treatment by me with these drugs have followed no rules of diet; others have frequently violated the rules given and have partaken of carbohydrates to a greater or less extent, but notwithstanding have been given great comfort; their self-confidence has been increased, worry diminished, sleep restored, and the subjective symptoms greatly improved—and all of these are unquestionably factors of far-reaching importance in regard to glycosuria.

MEDICAL PROGRESS.

Bipolar Version.—In spite of the greater infantile mortality, H. D. Fry (*N. Y. Med. Jour.*, Aug. 17, 1901) prefers bipolar version with slow extraction to *accouchement forcé* in the treatment of placenta prævia. The advantage of the version is the ability to perform it successfully with very little dilatation and consequently with less loss of blood. At the same time there is greatly decreased maternal risk.

Treatment of Diabetic Coma.—Life-saving potency has been attributed to various methods of treatment of diabetic coma; among these methods is the administration of large quantities of sodium bicarbonate. In an analysis of reported cases, L. SCHWARTZ (*Prager med. Woch.*, Aug. 1, 1901) accepts but four cases as beyond criticism; these cases were children, to whom an exceptionally large quantity of soda can be administered in proportion to body-weight. Three cases of diabetic coma were observed by Schwarz. In two of these

cases a sodium salt of gluconic acid was added to the usual alkaline treatment, with successful outcome; the third case was treated by the alkaline method alone, with fatal issue. Gluconic acid appears to have the property of diminishing the production of the pathological substances which cause diabetic coma. In this connection the close relation between gluconic acid and the carbohydrates is alluded to. In acetonuria without coma, a given quantity of gluconic acid will control far better than an equal amount of grape sugar, the appearance of acetone in the urine.

Disinfection Researches with Lysoform.—Among the disinfectants used by clinicians during the past few years lysol has taken a fairly prominent place. It is but slightly irritating when employed in a one- to three-per-cent. aqueous solution and possesses a tolerably high disinfecting power in such dilution. Its poisonous properties have, however, somewhat limited its use. Lysoform, a formalin derivative, has recently been advocated as a disinfectant for clinical use on account of its non-poisonous properties which are combined with a fair degree of bactericidal power. It is a yellow fluid of an oily consistency, freely soluble in water and alcohol and possesses none of the irritating properties of formalin. It is odorless. When mixed with ordinary water the solution is somewhat cloudy in appearance, but this has no significance. SYMANSKI (*Ztschrift f. Hyg. u. Inf.*, July 31, 1901) has added urine to ordinary bouillon and incubated this for two days. This mixture was then in a state of active putrefaction. Microscopical examination showed the presence of both spore-forming and non-spore-forming organisms. He then tested the comparative power of lysoform and lysol against these organisms. In a separate series of investigations he added from .01 c.c. to 1 c.c. of these agents to 100 c.c. of the putrefying mixture, protected this from the light and maintained it at the ordinary room temperature. After twenty-four, thirty-six and seventy-two hours respectively "platings" were made from this into glycerin-agar. None of the lysoform plates were sterile, while the lysol plates taken from the .5 c.c. to 1 c.c. mixtures did not show the presence of any organisms. The bactericidal power of the stronger lysoform and the weaker lysol solutions were about the same. The deodorizing power of lysoform was much greater than that of lysol. Experiments with highly albuminous liquids showed that in such lysoform possesses very little antiseptic power, plates made from five-per-cent. solutions showing about 5,000 colonies per plate. Tested on spore-forming anthrax bacilli of moderate resistance, plates from two-per-cent. to three-per-cent. lysol solutions were sterile and the same result was obtained with three-per-cent. to five-per-cent. lysoform solutions. Inoculation experiments on mice and guinea-pigs demonstrated that lysoform possesses very little poisonous properties for them.

Cytodiagnosis in Meningeal Disease.—Since 1896 means of cytodiagnosis have been persist-

ently sought, and the method has been applied to various pathological states. X. LEWKOWICZ (*La Presse Méd.*, Aug. 17, 1901) has studied the cellular content of the cerebrospinal fluid in cases of meningitis. While Widal believes that normal cerebrospinal fluid contains no cellular element, Lewkowicz asserts that a few lymphocytes may always be found in such fluid. The latter differs with Widal also concerning the character of the cells found in tuberculous meningitis. According to Widal these are always lymphocytes, while Lewkowicz states that in 20 per cent. of the cases examined by him polynuclear cells were chiefly present, with only a small representation of lymphocytes (11 to 16 per cent.). The question is asked whether a cancerous tumor of the meninges or the changes occurring in early stages of general paralysis do not probably cause characteristic modifications of the cerebrospinal fluid and its cells.

Indications for Operation in Gastric Ulcer.—

As the risks of operation diminish, we have frequently to readjust our ideas as to the persistence with which medical treatment must be tried before resort is had to surgery. The present indications for operation in cases of gastric ulcer are stated as follows by A. T. CABOT (*Boston Med. and Surg. Jour.*, Aug. 29, 1901): (1) Acute hemorrhages should rarely be treated by operation; the results of interference have not been good, while satisfactory results have followed medical treatment; frequently repeated hemorrhage, even if severe, will demand operative treatment. (2) Small frequent hemorrhages, threatening anemia, indicate operations. (3) Perforation of the stomach, whether acute with general peritonitis, or chronic with adhesions and perigastritis, demands operation. (4) When an ulcer runs a chronic course and gradually diminishes the patient's capacity for work and enjoyment of life, an operation is indicated, especially when the patient is dependent on his daily work for support and is unable to regulate closely his diet.

Metastatic Choroiditis in Pneumonia.—This is not a very frequent complication of pneumonia, but six cases are reported by C. S. BULL (*Med. Rec.*, Aug. 31, 1901) and it is of such grave import that the condition should be readily recognized. The disease is characterized by pain in the eye and head, intense vascular congestion and rapid and total loss of sight. Intra-ocular pressure is at first raised and then diminished much below normal even when no perforation occurs. The course is from three to six weeks and the prognosis bad, the case ending with total blindness and a shrunken eyeball. The lesion is usually bilateral, signifying the constitutional character of the infection.

Agglutinating Substances.—These have of late been the subject of much investigation and many hypotheses have been advanced in regard to them. It has been held that these substances are present only in the superficial layers of microorganisms and that the process of agglutination is nothing more than a variety of coagulation.

F. C. HARRISON (*Centbl. f. Bäk.*, July 31, 1901) has recently studied this subject along somewhat new lines. He experimented with the pyocyanus and typhoid bacilli by dissolving their superficial layers, but leaving the internal nuclear portion intact. His work shows that the agglutines exist entirely in the external layers of these organisms and that when these are removed the remaining portions are incapable of giving a reaction even with a very powerful serum. He thus endorses and amplifies Nicolli's hypothesis that agglutination consists in the coagulation and coalescence of the external layers of agglutinating organisms.

Symptoms and Treatment of Nitrobenzol Poisoning.—Reliable symptoms of nitrobenzol poisoning are the characteristic odor about the mouth and the associated cyanosis. When large doses are taken stupor is present, or even total loss of consciousness, together with a rapid pulse and respiration. A latent period of about 30 minutes follows the administration of this poison by mouth, owing to its insolubility in water and in gastric juice. An occasional symptom is hemato-genous icterus, and numerous nervous symptoms are possible, including headache, vomiting, ringing in the ears, vertigo, pupillary alterations, palpitation, stammering, convulsions. In cases cited by V. SIMERKA (*Wien. klin. Rund.*, Aug. 11, 1901) fatal doses were respectively 150, 20, 15 grams. In treatment the first essential is prompt stomach-washing. Wine or milk must not be given on account of the solubility of nitrobenzol in fats and in alcohol.

Typhoid Bacilli in Sputum.—The sputa of eleven typhoid patients were examined for typhoid bacilli by P. EDEL (*Fortschr. d. Med.*, 1901, No. 14). In ten cases the patients suffered merely from a complicating bronchitis and typhoid bacilli were not found. In the eleventh case a bilateral pleural exudation occurred at the end of the third week. For several days following the development of the pleurisy the sputum continued bronchitic in character and contained no typhoid bacilli; the sputum then became hemorrhagic, and during ten days typhoid bacilli were found three times; later examinations were negative. The bloody sputum in this case did not resemble the characteristic rusty sputum of croupous pneumonia, but contained an admixture of bright red blood.

Actinomycosis Hominia.—A very unusual and interesting case of actinomycosis diagnosed before death is reported by G. FUTTERER (*N. Y. Med. Jour.*, Aug. 24, 1901). For seven years the man had suffered from attacks of pain in the epigastrium, severe in character, lasting a few hours and sometimes followed for a few days with clay stools. An operation four years previously had disclosed a caseous mass in the right epigastrium, which was removed and the wound healed quickly. Later a laparotomy showed many abdominal adhesions and some caseous material and persistent sinuses followed. For a year past, well-developed symptoms of phthisis pulmonis

have been present. In the discharge from the sinuses ray fungi were found, but none in the sputum. Autopsy showed that the liver substance, especially of the right lobe, had been almost entirely destroyed and that the process at this point was evidently continuous with a destructive lesion which involved nearly the whole right lung. It is supposed that the initial lesion was situated in that lung. Two yellow nodules were also found. At the bases of the tricuspid valves, developing along the course of the coronary artery of the heart. A distinguishing feature of peribronchitic actinomycosis is thought to be found in the sharply defined, sulphur-yellow rings which tend to grow inward and involve the lumen of the bronchus rather than the surrounding lung parenchyma, as happens in tuberculosis.

Treatment of Delirium Tremens.—Signs which can be relied on as indicative of approaching delirium tremens have long been sought. J. F. PERRY (*Boston Med. and Surg. Jour.*, Aug. 22, 1901) regards no sign as absolutely certain. Exceeding nervousness in a hard drinker is suggestive. A more valuable premonitory sign is said to be a more or less continuous dilation of the pupils for twenty-four hours before delirium commences. At Blue Hills Sanitarium reasonable quantities of their accustomed liquor are allowed to patients just admitted as chronic alcoholics; the final withdrawal occurs on the third or fourth day, with gradual diminution of the supply during the intervening period. As a substitute for alcohol, ammonia, camphor or hyoscyamus is given. For excessive muscular tremor opium in small doses is administered every two hours. At the first sign of trouble an effort is made to get the patient to sleep; if six or eight hours of sleep can be obtained the delirium will usually be dissipated. Perry commends the use of small doses of chloral hydrate, at half-hour intervals, except where contra-indicated by the cardiac condition. Where chloral fails, chloralamid and paraldehyde will usually do no better. hyoscine hydrobromate may be more satisfactory, and in desperate cases musk is effectual, though expensive. When medication by mouth is refused, apomorphine, hyoscine and morphine are most useful hypodermatically. A delirious patient must not be disturbed when sleeping.

Bactericidal Power of Rabbit Serum in Anthrax.—According to the exponents of the alexin theory, natural immunity is due to the presence in the blood of certain protective substances. This is established by the fact that if bacteria are introduced into blood or blood serum *in vitro* an inhibition of their growth is seen to take place and if the number of organisms so introduced is very small they very soon perish. The serum of different animals is known to vary in its bactericidal power according to the micro-organism with which it is brought into contact. The power of rabbit serum over anthrax bacilli has recently been studied by M. WILDE (*Ztschrift f. Hygiene*, July 31, 1901). He investigated the

effect of active and inactive rabbit and cow serum upon anthrax and typhoid bacilli and demonstrated that both active and inactive rabbit serum have an injurious action on anthrax bacilli which they do not possess for the typhoid organism and that cow serum has no deleterious effect upon either bacillus. His experiments were conducted by mixing typhoid and anthrax bouillon cultures with the various sera and subsequent "plating" in glucose-agar. In the anthrax infection of rabbits the great accumulation of the bacilli in the blood-vessels occurs in the death agony, during which the bactericidal power of the blood is either entirely lost or much diminished. In addition to the alexins there exists in the blood of most rabbits still another substance, probably only injurious to the anthrax bacillus, which is not destroyed, as are the alexins, by one-half hour's heating at 57° C., but which for its destruction requires twenty-four hours' exposure to this temperature.

Chromatopsia.—The production of chromatopsia may be due to a variety of causes, a consideration of which must precede intelligent treatment of this condition. As enumerated by H. CHALUPECKY (*Wiener klin. Rund.*, Aug. 11, 1901) the chief etiological factors are (a) general diseases: Here there may be a genuine anatomical foundation for the condition, as in icterus, or there may be a functional retinal disturbance due to malnutrition, as in exhausting febrile diseases. Failure of retinal adaptation, as yet vaguely understood, occurs also in hysteria, epilepsy, migraine; (b) intoxications; there may exist here a disturbance of the irritability of nerve-endings, due to direct action of the poison, or a failure of retinal adaptation connected with abnormal behavior of the retinal pigment; (c) diseases of the fundus; (d) dilatation of the pupil; (e) exposure to dazzling light. The existence of a special cortical center for color-sense, through irritation of which chromatopsia might be explained, cannot be accepted, according to this author, upon either practical or theoretical grounds.

Measurement of the External Urethral Orifice.—For the purpose of cystoscopic examination, catheterization of the ureters and the like in females, it is important to know what is the largest cystoscope which can be used without injury to the urethra. In a normal urethra the greatest resistance is met with at the external orifice. Measurements of the external urethral orifice were made by G. BROWN MILLER (*Johns Hopkins Hosp. Bull.*, Aug., 1901) by means of the urethral calibrator of Kelly in 100 cases. The smallest orifice found measured .4 mm.; the patient was a woman who had borne eight children. Two urethrae, likewise in multiparous women, measured 12 mm. Average diameter of the meatus in 100 cases was 7.59 mm. Average diameter of meatus in multiparous women was 7.83 mm.

Diphtherial Infection from Well Persons Carrying Bacilli.—A case which illustrates important points concerning the contagiousness

of diphtheria is reported by F. A. WHITE (*Boston Med. and Surg. Jour.*, Aug. 29, 1901). The interesting features are as follows: Virulent bacilli were present for eighty-five days in the throat of a child who had a mild attack of diphtheria. Three months after the child's illness, after the premises had been twice fumigated, virulent bacilli were present in the throats of two out of four of the child's associates; these two associates did not have diphtheria, although they carried virulent bacilli in their throats for a long time. The persons not showing bacilli in the throat were of ages when infection is less likely to occur (six months and twenty-five years); those showing bacilli were four years and eighteen years respectively. A child of four years was exposed for two days to the children having bacilli, and within five days this child developed diphtheria.

Ether in Removal of Ceruminous Plugs.—

To remove ceruminous plugs from the external auditory canal various means have been used to soften or partly dissolve the mass. Alcohol, glycerin and salts of sodium and, of late, peroxide of hydrogen have been employed. E. L. MEIERHOF (*N. Y. Med. Jour.*, Aug. 24, 1901) has found that undiluted sulphuric ether poured from a small bottle or pipette acts in a few seconds so that the most gentle syringing is successful. No dizziness or ill-effects have been caused by this method, but the author recommends that a mixture of equal parts of alcohol and ether be used.

Suppurative Pyelophlebitis.—Comparatively little experimental research has been instituted with respect to this condition. The major part of the work hitherto done has been conducted by the employment of aerobic methods the results of which are non-conclusive in regard to fetid suppurative processes. CHARLES NORRIS (*Jour. Med. Research*, July, 1901) reports a case in the study of which anaerobic methods were chiefly employed. The disease ran an acute course, the clinical symptoms being daily chills, fever, delirium and stupor. At autopsy there were present calcareous degeneration of the coronary arteries, moderate congestion of the spleen and parenchymatous degeneration of the kidneys. The duodenum and pancreas were adherent. The head of the pancreas and the adjacent fatty tissue were firm and indurated. There was a small abscess near the thrombosed pancreatic vein. The liver weighed 6½ pounds and both lobes contained numerous small abscesses. The pus was white, thick and fetid and showed on microscopical examination no ameba, but two kinds of organisms, viz., cocci and long, slender bacilli. These organisms were both anaerobic and were with great difficulty isolated in pure culture. The cocci were similar to the micrococcus foetidus of Veillon and an anaerobic streptococcus described by Menge and Kroenig. The bacilli were not identified. Inoculation experiments with cultures of these organisms some time after isolation were negative. Sections and cover-slip preparations of the hepatic lesions showed the presence of both of

these organisms; this fact, taken in conjunction with the abundant anaerobic growth and the sterile aerobic plates, shows that these organisms were the primary excitants of the condition and not merely concomitant factors. The necrotic thrombosis of the portal vein indicates that the point of entry of these organisms was through the venous circulation of the liver.

Antitoxin Treatment.—Much bitter feeling has been shown by the advocates and enemies of the antitoxin treatment of diphtheria. It is largely due, no doubt, to the unwillingness of both parties to view the question from a broad standpoint. A. RUPP (*Med. Rec.*, Aug. 31, 1901) suggests that there has been proven to be a great difference between the scientific and the practical methods of treatment. It is now generally admitted that the diphtheria antitoxin antagonizes only the diphtheria toxin and the amount of toxin in a person is an unknown quantity. Other bacilli besides those of Klebs-Loeffler can produce clinical diphtheria. Thus the antitoxin becomes a remedy of rather limited utility, but, no doubt, of specific value in selected cases.

Bacteriology of Lobular Pneumonia.—This subject has been relatively little studied in adults, most attention having been given to the disease in children, especially as a sequel of diphtheria and the acute exanthemata. GEO. BLUMER (*Pro. N. Y. Path. Soc.*, New Series, Vol. I., No. 2) reports the study of 71 cases of which 53 were adults. A great variety of organisms were present, but the streptococcus and the colon bacillus were the ones most frequently found. When compared with the results of other observers the pneumococcus and the pneumobacillus were rarely found. The frequency of the colon bacillus is probably to be ascribed to agonal or postmortem invasion. In 21 cases in which this organism was present, 12 showed a general invasion. In 37 cases in which other bacteria to the exclusion of the colon were found, 23 showed a general infection. A study of the bacteriology of normal, congested and edematous lungs is interesting. Four normal lungs all showed the presence of bacteria and in 2 there was a general systemic invasion. Four edematous lungs all contained bacteria, while only one showed general infection. Fourteen out of 20 acutely congested lungs showed the presence of micro-organisms and in all but 6 there was also a systemic infection. Seventeen lungs, both edematous and congested, showed 15 which contained bacteria in 9 of which there was a general infection. These results indicate that in cases of simple congestion and edema, as well as in lobular pneumonia, general infection is the rule. These organisms are perhaps carried to the lung by the general circulation, but it is impossible to deny that the opposite may sometimes be the case. As in many cases no bacterial lesion aside from the pulmonary one is found, it seems that the lungs are much more frequently the portal of entry in general infection than is generally supposed and this often without marked pulmonary lesion.

THERAPEUTIC HINTS.

Detachment of the Retina.—De Wecker evacuates the subretinal fluid with a sharp-pointed instrument with two blunt edges and shaped like a broad needle. This is extended through the sclerotic and choroid at a place corresponding to the detachment, but not so deeply as to reach the retina. Preferably a position near the equator of the globe and between two recti muscles should be selected. When the needle is inserted, it should be turned slightly so as to open up the tissues and let the fluid escape. A firm bandage is applied and the patient kept in bed for eight or ten days. In some cases, the dorsal decubitus for four or six weeks, with a pressure bandage on the eye, has been successful. The cure is only temporary, the most favorable cases being those due to choroiditis, while the least favorable are due to posterior staphyloma.—H. R. SWANZY in "Diseases of the Eye."

Syphilitic Iritis.—Von Graefe was fond of the following formula in syphilitic iritis:

℞ Hydrarg. binioid gm. 0.4 (gr. vj)
Potass. iodid 6.0 (ʒiss)
Aq. destillat. 15.0 (ʒss)
Syr. aurant. ad. 90.0 (ʒiiij)

Pleurisy.—In the beginning, we try to lessen the pain and dyspnea, writes ADOLF STRUMPELL, by mustard plasters, warm poultices dry cups, chloroform liniment or in severe cases, by morphine. If an ice-bag is well borne, it tends to check the inflammation. Painting with iodine is of doubtful efficacy. An iodoform ointment, one to fifteen, or iodoform collodion is of more value. If a large effusion has formed we may try to lessen it with diuretics, such as acetate of potassium, squill, potassium and sodium tartrate, etc. If there is weak heart action, infusion of digitalis is best. Drastic purgatives, sodium salicylate, pilocarpine or hot packs remove fluid, but are depressing. The benefit from iodide of potassium is greatly overestimated. Only when the effusion is large should it be removed by aspiration. To prevent loss of strength, the patient should get sufficient easily digested food.—"Text-Book of Medicine."

Otitis Media.—Adopting the belief that all catarrhal affections of the Eustachian tube and middle ear, are due to, or promoted by an inflammation of the nasopharyngeal mucous membrane, we must direct treatment to this. Nitrate of silver is the best remedy, applied in solution on some cotton wound about a cotton-carrier. The cotton should be squeezed out after dipping it in the solution, or this may run down and cause spasm of the glottis. The mop should have the terminal inch bent at right angles, then with the pharyngeal cavity illuminated by a forehead mirror and the tongue depressed, the patient draws in a long breath, then breathes it out slowly through his nostrils. This causes relaxation of the palate muscles, and at this moment the mop is passed high up behind the soft palate, first toward one Eustachian orifice, then across toward the other.

If there is much mucus, the above procedure must, of course, be preceded by dry mopping till the mucous membrane is fairly clean. For children of from four to eight years, the author begins with a 15-grain solution of silver nitrate increased to 25 grains to the ounce, and makes the applications every second day.—A. H. BUCK, in "Diseases of the Ear."

Parenchymatous Keratitis.—In the early stages no irritants should be applied, but atropine should be instilled to prevent iritis or posterior synechiae. Warm moisture, in the form of poultices or fomentations, promotes vascularization, and hastens absorption of the cellular elements which form the opacity. When the acute stage is ended, yellow oxide ointment, and in both stages massage may be used to disperse the infiltration. In severe cases mercurial inunctions for several weeks would be advisable, and in mild cases, iodide of iron, cod-liver oil, etc. The author has had good results from hypodermic injections of perchloride of mercury, gm. 0.0015-0.003 (gr. 1-40—1-20), once a day. Blisters to the temple and other counterirritation only increase the patient's discomfort, without good to the eye.—H. R. SWANZY, in "Diseases of the Eye."

Pterygium.—This, a triangular vascularized thickening of the cornea, is best left alone, unless it be very thick, or has invaded the cornea, or is progressive. For its removal a strong silk suture is passed through two needles; one is passed under the pterygium close to the cornea, and the other at its base, the ligature being drawn half way through. The thread is cut close to each needle and the ligatures thus made, tied tightly. In four or five days the pterygium comes away. The excrescence may be dissected off with scissors or a fine scalpel, or a good plan is to pass a strabismus hook under the pterygium when raised from the sclerotic, and forcibly to separate the corneal portion by drawing the hook under it. The dissection is continued toward the base, where it is finished by two convergent incisions.—H. R. SWANZY, in "Diseases of the Eye."

Cirrhosis of the Liver.—Of all the symptoms the results of portal congestion deserve the most consideration. The bodily vigor should be promoted, and the patient enjoy complete physical rest. In the milder cases, depletion is encouraged by salines or small doses of calomel, gm. 0.03-0.06 (gr. ½-i), two or three times a day. In severe cases, more drastic remedies may be needed. Diuretics are of great value, and, besides potassium acetate, squill, etc., we may use copaiba or its resin the dose of the latter being gm. 1.0 (gr. xv) daily. In some cases this remedy has caused marked diuresis, and accompanying diminution of the ascites. If there is great local discomfort or dyspnea owing to ascites, paracentesis may afford relief. The application of an elastic bandage after the fluid is removed may retard its reaccumulation.—A. STRUMPELL in "Text-Book of Medicine."

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Subscription Price, including postage in U. S. and Canada

PER ANNUM IN ADVANCE	\$4.00
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No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708, & 710 SAMSON ST., PHILADELPHIA.

SATURDAY, SEPTEMBER 14, 1901.

THE PRESENT AND THE PAST.

IN THIS week's issue of the MEDICAL NEWS we present to our readers a short authentic account of the surgical features of the recent shooting of President McKinley, gathered by one of our staff from those in charge of the patient at Buffalo. We also publish a short summary of the illness of President Garfield and wish here to point out some of the more important differences which come to mind in comparing two somewhat analogous surgical incidents.

From the very beginning the cases are not comparable, within strict lines, but there are undoubtedly certain features which reflect a great difference in surgical procedures of the present day and those of twenty years ago.

The modern modes of conveyance whereby an injured man is readily and easily conveyed to a hospital equipped with all necessary appliances suggest one phase of difference in the treatment of President McKinley in contrast with that of President Garfield. No surgeon in a large city at the present day, save in the most extreme emergency, would think of examining a wound without the proper facilities and under the strictest antiseptic precautions.

Temporary expedients are rejected by the mod-

ern operator who has, under the teachings of antiseptic surgery, practically no dread of doing almost anything in the way of operative interference. The immediate and fearless opening of the abdominal cavity, with the direct desire of seeing with the eyes the damage done by the missile, marks another step which the methods of twenty years ago would not permit.

Should it subsequently become necessary to find and extirpate the bullet in President McKinley, physical science has placed in our hands the means whereby it may be located with an accuracy beyond a doubt. Had the use of the Roentgen ray been among the acquisitions of a former generation, it is more than probable that the secondary hemorrhage which took the life of President Garfield would not have occurred and that the removal of the bullet in the early days of his illness, and the appreciation of the injury to the bony structures of the spinal column, which also might have been detected by the use of these light rays, would have resulted in more radical and successful surgery.

The surgeons of that day lived up to the fullest of their opportunities. Let us be thankful that medical research has raised the level of the opportunities of the present generation to a much higher plane.

THE CASE OF THE PRESIDENT AND THE SURGICAL LESSON OF THE HOUR.

THE attention of the entire professional and, for that matter, the lay world has been fixed for the past week upon the case of President McKinley, and the grave problems involved in the prognosis of penetrating wounds of the abdomen and perforating wounds of the stomach.

The day has gone by for serious discussion of the necessity for promptly opening the abdomen in every case of penetrating wound of its cavity, occurring in civil life at least, with the view of repairing the damage inflicted upon its contained viscera by the perforating missile.

That the members of the surgical branch of the profession, whose judgment is at all worth having, have looked with the fullest approval on the course pursued by those who are in immediate attendance upon the President, goes without saying. The recognition of the fact that prompt operative interference held out the very best, if not the only chance, stands out as the pivotal point upon which every consideration of the case must turn. The surgeons met the first question at issue, namely, as to whether or not

the missile had invaded the peritoneal cavity, by immediately placing the patient upon the operating-table in the Emergency Hospital and enlarging the wound of entrance in order to at once and satisfactorily clear up this point. This having been decided in the affirmative, the next enquiry naturally arose as to what damage had been done to the important viscera. Here, again, a thorough investigation cleared up this vital point. There was no guess-work about it; no waiting for the occurrence of so-called symptomatic indications for further interference, or the cry of the nation to "do something" for the illustrious sufferer. It was done with that true instinct which marks the course of the modern surgeon, and done, too, with a celerity and skill that has won for the surgery of the century new laurels. For this is not merely a personal gain for the individual who happened to wield the knife, although to him should be given every praise, any more than the favorable result, which at the time of writing seems to be assured, is the gain alone of the patient himself. As the whole American nation and, in addition, the world at large, is the gainer by the life saved, so will the entire medical profession profit by the lessons taught and the victory won.

Surgeons who are brought face to face with the conditions which confronted those who, in the first hour following the infliction of the dastardly blow, were responsible to a vast and highly intelligent, and oftentimes hypercritical people, will realize what passed through their minds. As the eye took in at a glance the small blue-edged opening in the abdominal wall, so the mind instantly grasped the many possibilities of danger involved in the missile's fight. Visions of a bleeding vessel in the omentum or mesentery and rapid loss of blood, with great probability of collapse and death, and of perforated viscera with the only too-certain sequel of septic peritonitis, must have passed in rapid panoramic procession before them, to say nothing of the sight of the millions with pallid faces, surging hearts and bated breath, whose concentrated gaze was turned toward the little emergency operating-room in the Queen City by the lake. To wait for symptoms of internal hemorrhage and hope that they would not appear was but to lean upon a broken reed. To postpone the saving touch until assured that infection had actually taken place would be throwing away golden moments, render the effort to save futile, and, because of this futility, lay those responsible open

to the well-merited charge of cowardice. Useless would it have been to attempt to justify such a course by quoting ancient statistics designed to show that the mortality of interference was almost, if not quite as large, as non-interference, for the answer would at once have been made that, of those who recovered without operation, there was no proof that vessels or viscera had been injured, and of those who died there was a failure of the realization of the importance of time as a saving factor, and the element of proper technic evidently wanting; proper criticisms involving underlying principles and supporting the contention that in former times this most important question had not been decided upon its merits. Neither could they have urged that, proof of infection being wanting, they were not justified in interfering. This would have been met by the assertion, based upon the experience of many a surgeon in abdominal work, that to wait for peritonitis to supervene would only be waiting for an excuse to put the finishing touches to a scene already tragic in the extreme. To have endeavored to escape criticism by the assertion that no vomiting of blood had occurred, and hence the stomach had not been injured would have brought to light from the literature the cases in which perforation of the stomach, as revealed by operation, had taken place and in which vomiting, and even pain had been absent. To have quoted the statistics of the late war would have availed but little, since experience shows that the rapid traversing of the tissues by a projectile from a high muzzle-velocity modern firearm is a far different matter compared with the damage inflicted by a cheap low muzzle-velocity and black powder-driven, soft lead missile which forces its way comparatively slowly into the tissues, adding the damage of structures crowded and forced against each other to that due intrinsically to the missile itself.

All these things are matters of thought in the surgical mind of to-day. And when the public appreciate to some extent what surgery has done for a well-beloved President, let the tribute of praise for the clear head, the cool judgment, the courage, and the skilful hand that were the instruments in the victory over the assassin's deadly purpose, mingle with the realization of what the medical profession is to the world.

As to the features of the case from the purely scientific standpoint, there is but little to dwell upon. The triumphs of aseptic surgery are com-

mon enough, and the experience gained since the then obscure Glasgow surgeon first promulgated his teachings have been slowly but surely pointing to the hour when the greatest living representative of the greatest of the nations of the earth should receive the benefit of those teachings in the most impressive manner. And, if it shall be that success waits upon the efforts of those who are striving for the life of the President, let it not be forgotten to acknowledge the obligation for the genius of the father of modern surgery, Joseph Lister.

THE GENESIS OF THE CRANK.

IT HAS long been admitted by alienists as well as by enlightened jurists that it is desirable, if not necessary, to make a distinction between mental aberration or insanity as viewed from the standpoint of a well-rounded mental activity and mental aberration which involves the principle of responsibility. Thus we have an individual afflicted with medical insanity who may never become insane from the legal point of view simply because society does not sufficiently suffer to render it necessary to recognize an abnormal member.

We would hold that there is no ideal mind that may be used as a scale by which other minds should be measured, but would formulate the idea that sound mental action is based upon the prevailing customs of the times and as such is a reflection of the development of the major portion of a large community.

Those who move in the center of the great stream of human progress, contributing their little to the advancement of individual development, we deem as healthy and sane-minded people; a few there are who dream dreams, both little and great, of future perfections; those who dream possible dreams are the geniuses of our social fabric; those whose dreams are impossible of all fulfilment make up the large body of fanatics and cranks of which we would speak.

It is almost a commonplace to say that most of us are for the most part products of our surroundings, our dreams are colored by those about us and it is to one phase of our environment that attention should be called if we would know of the genesis of the particular kind of crank who has so foully shown how barbarous mankind can be.

Because it pays in dollars and cents to be a mouthpiece of discontent and because more money can be made by telling people cheap and

tinted versions of how to offset the inevitable instead of offering honest and manly counsel, we have in our midst a number of foul sheets of sentimentality which are veritable educators to violent and unjust deeds. We believe that our so-called yellow journals are responsible in large part in keeping alive and introducing into men's minds the seditious principles of anarchy which bear such rotten fruits. We say this advisedly and with a keen appreciation of the psychological principles involved. That public press which distorts and sentimentalizes the smaller details of every-day life is responsible in large part for the mental unbalance of its readers in their judgment concerning the more complicated movements of society. If the facts of every-day life cannot be given to people of minor intelligence in a straightforward and honest manner, is it any wonder that such people fail to see relations as they should be seen and is it incomprehensible that unbalanced social reformers result from such mental training?

Rulers have been killed before printing-presses ever came into existence and they have been murdered for the very reasons that anarchy now preaches as its gospel. Individual leaders have always been found to pander to discontent and human greed. The mantle of the demagogue of old has fallen on the shoulders of the modern sensational press and murder and lust are still fostered beneath its folds.

THE MENTALLY UNBALANCED IN MODERN LIFE.

WITHIN the last three years the world has been aroused to bitterness and startled to the verge of irrational action and opinion by three dastardly attempts upon the lives of rulers. Two of them were unfortunately successful; the third, thanks to the skill of American surgery, now promises to be a happy failure. All three attacks were committed upon individuals whose dispositions were most kindly, whose lives had been free from any stain of personal wrong-doing and whose public careers were not of the character which tends to the making of personal enemies. In the cases of the Empress of Austria and the King of Italy the outrage that caused death was quite as wanton and uncalled for, and the criminals had quite as little personal reason for the attack as in the case of our happily recovering President.

A comparative, even superficial study of the characters of the criminals as disclosed by their history shows certain points of similarity. They

were moody, retiring individuals who made few friends and were largely thrown back upon themselves and their own thoughts during their moments of leisure. All of them seem to have had a craving for the notoriety that their act would bring them and an unfortunate delusion that somehow good would come out of it. Had they been men accustomed to confide in others there would have been some possibility of a correction of their delusion, or, failing that, some warning of the crime to come. None of them had any adequate motive for the crime and yet planned it as carefully and with as much shrewd adaptation of means to the end, as if they were about to perform a praiseworthy act.

In this country this is the third criminal attempt upon a ruler's life. The other two were committed by men whose histories evidently point them out as mentally unbalanced. As a matter of fact such men are not criminals so much as unfortunate human beings led by delusion into the commission of acts that, owing to the instruments of destruction which civilization puts so ready to hand, are much more serious in their consequences than unarmed delusion could effect. Power of evil is placed within reach of the unbalanced and the impulse to exercise it proves attractive to the aberrant fancy and leads on where difficulties would have deterred.

It would seem as though such occurrences must be more or less inevitable in our modern life, for the unbalanced we have always with us and the psychological moment that prepares so sad an occurrence as this may not easily be detected. Yet there are certain lessons that the event teaches, certain warnings that it emphasizes. When the struggle for life was severer than at present many more of the mentally unqualified were eliminated early in life. There is in our crowded world an ever-growing number of individuals to whom chance influences may prove the source of impulses to acts with consequences out of all proportion to the original motives, and it is to be regretted that this country has been chosen as an outlet for an immense number of this class, as well as a general rendezvous for criminals who cannot find a resting place in their own land. There is need, then, for a more thorough and honest control of immigration, and it daily becomes more apparent that not only those who suffer from physical ills and financial stress should be refused an entrance here, but those whose early surroundings and training

have been such as to engender the seeds of anti-social conduct. A reconsideration then of the fundamental principles of our immigration laws is therefore a subject of great national concern.

There is, moreover, a further feature in our political system that, taken at its worst, fails most lamentable in the service for which it is created. Meant primarily for the protection of society, our police systems too readily develop a corps of individuals who prey on society, and whose highest ideal at times is expressed not as to the quality of service they can render to the body social, but as to how much they can get out of it. We hold it true that dishonest and corrupt officials, with authority, do much to foster the spirit of discontent and by their leniency in the systematic control of the vicious permit the development of the spirit that seeks to kill.

ECHOES AND NEWS.

NEW YORK.

Once More Dr. Doty and the Mosquitoes.—

We learn from the daily press that a change of heart has come over Dr. Doty and that, whereas formerly no means were to be spared for their wholesale extermination, now he is raising them as household pets and further, is reported as being desirous of proving a number of things that are already known. We fear that there is too much press-agent science about this campaign, and would recommend a study of the careful methods now in process of operation by the officers of the Cold Spring Biological Laboratory in their coöperation with the North Side Protective Association on Long Island.

Association of Hospital Superintendents.—

The third annual conference of the Association of Hospital Superintendents was begun Wednesday at the Murray Hill Hotel. Charles S. Howell, Superintendent of the West Pennsylvania Hospital of Pittsburg, called the delegates to order. After a brief prayer by the Rev. Dr. Cornelius L. Twing of Brooklyn, Randolph Guggenheimer, President of the Municipal Council, made the visiting superintendents welcome to the city. John W. Keller, Commissioner of Charities, invited the delegates to visit Bellevue and the City Island Hospitals. Various papers on hospital management were read and discussed.

Some Brief Notes Concerning the President's Surgeons at Buffalo.—Many of the practitioners in attendance on the President at Buffalo are well known to our readers. We add here, however, a brief comment on those who were actually engaged in the first emergencies.

Dr. Matthew Mann, who performed the operation for the most part, is well known to the readers of the *MEDICAL NEWS*. He is fifty-six years of age and is professor of gynecology at the University of Buffalo, and gynecologist at the Buffalo General Hospital, has attained a wide reputation through his standard textbook on gynecology. He is a park commissioner of the City of Buffalo. He has practised from thirty to thirty-five years in Buffalo and has a good reputation as an eminent abdominal surgeon. He was once an instructor at Harvard University.

Dr. Roswell Park needs no introduction. He is a surgeon of world-wide fame and author of "Park's System of Surgery," a standard work. He is also an acknowledged expert in cancer, being vitally interested in the laboratory at Buffalo from which Gaylord's recent researches have come. He is about forty-eight years of age and graduated from the Rush Medical College, of Chicago, some twenty-five years ago and for a time taught there. Subsequently he spent much time in European study and upon his return earned his present reputation as a rapid and clean operator, and is one of the few ambidextrous surgeons in practice. He is chief surgeon at the Buffalo General Hospital and professor of surgery at the University of Buffalo.

Dr. Herman Mynter is an older man, perhaps fifty-six, a Dane by birth and is well known in two continents as an expert abdominal surgeon. Mynter has given the profession an excellent work on appendicitis. Recently he went to Denmark and lectured on his chosen subject before the Danish Medical Congress at Copenhagen. He was formerly surgeon at the Sisters' Hospital and now operates at the German Deaconess Home at the new German Hospital.

Dr. John Parmenter is esteemed as one of the best and most careful of the younger surgeons in the western part of New York State. He is under forty years old and is professor of anatomy at the University of Buffalo.

Dr. Eugene Wasdin, surgeon of the Marine Hospital, Department of the United States, stationed here, will be remembered as one of the experts detailed to investigate yellow fever in Cuba during the recent war. He is about forty years of age and has been a constant contributor to the *MEDICAL NEWS* on hygiene and bacteriological topics.

Dr. T. W. Lee, of St. Louis, who assisted in the operation, is medical director of the Omaha Exposition and is a well known western surgeon.

Dr. Charles G. Stockton, of Buffalo, was called into consultation because of his store of medical knowledge. He is one of the leading medical practitioners of Buffalo.

Dr. N. W. Wilson, who was in charge of the Emergency Hospital at the time and who

was in charge of the President until the surgeons arrived, won a reputation early in his career. He is and has been for three years post surgeon at Fort Porter, is connected with the staff of the Sisters' Hospital and is the sanitary officer of the Pan-American Exposition.

Dr. Presley M. Rixey, the physician to the McKinley family, who is with the President in Buffalo, is a medical inspector in the United States Navy. He is a Virginian, born in Culpeper in that State, and a brother of John Franklin Rixey, the Representative in Congress from the Eighth Virginia district. Dr. Rixey was appointed an assistant surgeon in the regular navy January 28, 1874. His first cruise was in the "Congress," attached to the Eastern station, and when his service on her was completed, in 1876, he was assigned to the Marine Hospital at Philadelphia, remaining there until the following year. His next service was at the Norfolk Navy Yard, and then in 1878 he was assigned to special service. Surgeon-General Bates, of the Navy, who had been Mrs. McKinley's physician in Washington when the President was in Congress and who had resumed that duty when the McKinleys moved into the White House, died in October, 1897. Gen. Leonard Wood, then an assistant surgeon in the army on duty in Washington, succeeded him as the White House physician, and when Gen. Wood went away from Washington as Colonel of the Rough Riders early in 1898, the President chose Dr. Rixey, and for three years he has been constantly in attendance on the President and his wife.

PHILADELPHIA.

Vacancy at University.—The chair of clinical professor of nervous diseases in the department of medicine of the University of Pennsylvania is vacant. Candidates for the position may send notice to the secretary of the Board of Trustees, Rev. Jesse Y. Burk, 400 Chestnut Street, Philadelphia, Pa., before September 28, 1901.

Typhoid Fever.—There is an epidemic of this disease at Bolivar, Penn. Last year hundreds were stricken at the same place. The water supply has been improved since then and at present only twenty cases are reported.

Anthrax.—There is an outbreak of anthrax at Forkville, Penn. Some dozens of cattle are affected and two men, brothers, who skinned one of the fatal cases, are in a serious condition as a result of infection.

Large Bequest to Hospitals.—The will of the late John D. Laukenau after providing for relatives, etc., leaves the residue of the estate to be divided between the German Hospital and the Mary J. Drexel Home. This will give each institution about \$600,000. The Society for the Relief of Distressed Germans and the Mt. Airy Orphanage receive \$5,000 each. Mr. Laukenau's nurse is bequeathed \$2,500.

County Medical Society Divided.—A meeting is to be held at Broad Street and Columbia Avenue September 19th for the purpose of organizing what will be known as the North Branch of the Philadelphia County Medical Society. This step is being taken to increase the attendance at the meetings of the society. Of the 2,500 physicians in the city more than 800 are members of the Society. Only a small percentage of this number attend the meetings, the distance from the homes of a large number being too great. Meetings at two points will obviate this to some extent.

To Consider a New Laboratory.—The County Medical Societies and the State Medical Association of Pennsylvania will consider this month the following resolution: *Resolved*, That we are in favor of the establishment of a Psycho-Physiological Laboratory in the Department of the Interior at Washington for the practical application of physiological psychology to sociological and abnormal or pathological data, especially as found in institutions for the criminal, pauper, and defective classes and in hospitals, and also as may be observed in schools and other institutions.

Damages in Smallpox Cases.—The epidemic of smallpox in Pennsylvania has given rise to two interesting suits for damages. One was instituted by E. C. Myers and his wife against John Crum, a farmer, near Linglestown. Myers' brother while employed by Crum was taken with smallpox. Crum hauled him to Myers' residence, it is alleged, after learning the nature of the disease. As a result Myers, his wife, and their four children were stricken with the disease. While in the pest-house, Myers' old mother, uncared for at home, lost her reason and is now in an insane asylum. The Myers' suit against Crum is for \$10,000 damages. The second suit has been brought against the borough of Ashland by Mrs. Elizabeth Burmeister. She claims \$10,000 damages for the death of her husband from smallpox. The borough is charged with neglect in not organizing a Board of Health as required by law. The patient, it is claimed, was removed to a pest-house against protest, was uncared for, and was not allowed the services of a physician.

CHICAGO.

Canal Water for Analysis.—Samples of drainage canal water have been taken by Missouri and Illinois experts for analysis, the result to be used as evidence in the great drainage canal case pending before the Supreme Court of the United States between Illinois and Missouri. The samples are to be taken at the same time by both sides and at the same place, and it is expected that from the results reliable evidence will be obtained. In sixteen places along the great waterway from Chicago to St. Louis dippings will be made into the water, each side to analyze its own

samples. This result was reached at a recent conference held in the rooms of the Sanitary District between experts from both States. The suggestion originated with Attorney-General Hamlin of this State, who was present with the following officials: Health Commissioner Arthur R. Reynolds, Chicago; Assistant Health Commissioner Reilly, Chicago; Ex-Judge Wm. M. Springer, Counsel of the Sanitary District in the case in the Federal Court; John G. Brennan, Special Counsel for the Sanitary District, and Attorney of the Illinois Central Railway Co., for Illinois, Indiana and Missouri; Dr. Amand Ravold, City Bacteriologist, St. Louis; Dr. Wm. C. Teichmann, City Chemist, St. Louis; and Dr. Adolph Gehrman, City Bacteriologist, Chicago.

To Rid the State of Quacks.—The Illinois State Board of Health has announced to its attorney that it is about to take active measures for the suppression of quack doctors, dispensaries and medical institutes, whose advertisements enrich the daily papers and attract the ignorant masses. Several individuals have been summoned on the charge of practising medicine without license, and a hearing for the first cases is set for September 9th.

Status of Smallpox in Chicago.—According to the bulletin of the City Health Department, issued August 31st, for the first time in more than thirty months the City Isolation Hospital was emptied of smallpox patients last week. Between March 9, 1899, the date of the first case of the series, and August 12, 1901, the date of the last admission, 342 cases of smallpox were discovered in the city, and removed to and treated in the Isolation Hospital. The last case was discharged, cured, August 28th, the resident physician relieved from duty, and the hospital closed. During the period a total of 960,588 persons were examined as to their vaccinal status by the medical inspectors of the Health Department and the public vaccinators, and 220,648 were vaccinated. The greatest number in any one month was 303,725 examined, and 44,904 vaccinated in February, 1901, since which time the disease has steadily declined until the city is now free from the pest. This is a very gratifying contrast to the exhibit made by other large cities of the country.

Improvement in Quality of Milk.—A marked improvement in the quality of the milk supply has followed the posting of the names and addresses of delinquent dealers and shippers, and the confiscation and destruction of adulterated supplies at the receiving stations of the railroad. When this course of action was begun, the proportion of samples tested in the laboratory and found below grade was 22 per cent. During the past four weeks this proportion has been respectively 13.3, 10.5, 10, and last week it was only 6.6 per cent. Some share of the recent great improvement is undoubtedly due to the rains, which have helped pasturage, but that the action of the milk bureau is the impor-

tant factor is shown by the fact that the improvement began before the rains.

Volunteer Medical Inspections.—Dr. John R. Neely, Assistant Chief Medical Inspector of the Department of Health, writing on this subject, states that since these inspections began 10,188 homes have been visited, where lodged 38,966 inmates. There were found 750 cases of sickness, many of which, including cases of contagious diseases, were without medical attendance. The infected homes had not been disinfected, and were foci for the further spread of contagion. The inspection has revealed 5,707 insanitary conditions of all descriptions from unventilated domiciles to the vilest and filthiest of overflowing vaults. These conditions were corrected, largely by the householders, who were impelled to such duty when the danger was made obvious by the earnest and persistent inspector, or more serious defects were corrected through the proper city department. The inspection has been particularly valuable this summer, when so much apprehension existed of the dangers lurking in milk and ice. Especial attention was directed to these articles, and to securing for the people pure and reliable supplies. Investigation by this corps of many deaths from typhoid fever made it possible to locate accurately the cause, to inspire confidence and allay undue fear by suggesting means of prevention. The inspection gives the opportunity to study the home and habits of the poor, what they do for amusement, what they read, what they depend upon to brighten their lives; gives the opportunity to advise exercise for body and mind, to say a word of cheer to the unfortunate, and to listen to the pathetic stories of misfortune and poverty. These inspections are not experiments, they are procedures that pay a heavy dividend in saving life and health. They stimulate a desire for cleanliness that is contagious. They are practical, because they reach the people and bring results.

Dr. Senn on the General Hospital at Samara.—Dr. Nicholas Senn, in an article published in the *Chicago Tribune*, under date of September 1st, writes of this hospital, as follows: "The General Hospital at Samara is located in a handsome park near the western limits of the city, and consists of a number of wooden buildings, in barrack style. Each building does service for seventeen years, when it is removed and replaced by a new one. At present the hospital contains 400 patients. These patients are admitted from all parts of the Samara province and pay 20 kopeks a day. If the applicant is destitute, as is often the case, the district from which he comes pays this small charge for him. We spent half a day in the surgical section, in charge of Dr. Johannes Dairne, a surgeon of more than a local reputation. We had the pleasure of witnessing two operations for stone in the bladder. Stone in the bladder is quite common in this section of

the country, as this surgeon performs annually on an average 100 operations.

"Although the operating-room lacks many of the modern conveniences, the results obtained would compare well with those in our best equipped institutions, something we must attribute to the pedantic cleanliness of the operator and his assistants. The anesthetic, chloroform, was administered by a female field scheer or barber surgeon, and two other women of the same grade of medical education rendered assistance. The chief assistant was a recent graduate in medicine. These barber surgeons, male and female, are expected to assist licensed physicians, but are not permitted to operate or prescribe except in cases in which the services of a regular graduate in medicine cannot be secured. These barber surgeons must study their profession for four years, and the women are required to take an additional course in gynecology and obstetrics.

"Both patients were puny boys from the steppes of western Russia. In one case the high operation was performed; in the other the stone was removed by median perineal section after crushing.

"It is a fact worthy of note that according to the experience of Dr. Dsirne the peasants are almost immune against shock, he in his large experience having observed only one case. Dr. Dsirne invariably sutures the vesical wound in performing the high operation, using two rows of fine silk sutures, excluding carefully the mucous membrane. In most cases uncomplicated by cystitis he has seen the wound heal by primary intention. If cystitis is present he drains. Dr. Dsirne is a careful, conscientious, and dexterous operator. I am glad to know that he will visit the medical institutions of Chicago some time next summer."

GENERAL.

New Hospital for Newark.—Newark is to have a new Isolation Hospital, to cost \$20,000. This was decided upon by the Finance Committee of the Common Council Wednesday night, and the Board of Health was yesterday notified that it might go ahead and build the hospital as rapidly as it saw fit. The city now has only one small frame structure, wretchedly equipped, where over thirty patients have been kept at one time, with but one nurse to care for them. As fast as patients become convalescent they are set to work caring for the others. It will take several months to complete the new hospital.

American Pharmaceutical Association.—The forty-ninth annual meeting of this Association will be held at St. Louis, September 16-21 inclusive. A special rate of a fare and a third has been made by the various railroads for delegates attending the Association meeting in St. Louis. Parties going by way of Buffalo can secure a ten days' stop-over privilege on their return by depositing their tickets with the lo-

cal ticket agent and paying a fee of \$1.00. A special party will leave by the Barclay Street ferry, New York City, on Sunday morning at 9 o'clock, September 15th, taking the Lackawanna and Wabash Railroads, and arriving in St. Louis at 2 o'clock on Monday afternoon, one hour before the opening of the first general session of the meeting. The fare from New York to St. Louis is \$21.25. In purchasing tickets ask for an Association certificate. On arriving in St. Louis turn this certificate over to Dr. H. M. Whelpley, the local Secretary, who will visé and return it, when a return ticket can be purchased for one-third the outgoing fare. The sleeper fare is \$6.00 per berth each way. Parties desiring sleeper reservations should address the undersigned promptly so as to make sure of securing proper accommodations. This route has been selected on account of the beauty of the scenery and the fact that close connection is made and no time need be wasted by men who desire to leave their business for as short a time as possible. All who contemplate going will kindly communicate at once with CASWELL A. MAYO, *Member of Committee on Transport*.

The Contract Doctor in Michigan.—Swedish residents of Ludington, Mich., have introduced there a custom of their country, in the employment of a community doctor. The local physicians, it is said, were banded together for the maintenance of uniform and high charges. This suggested the idea of a health association, which was organized by the heads of 300 families, each of whom pays 50 cents a month towards the salary of a physician whose services are at their command in cases of illness. Many doctors earn no more than the \$1,800 a year paid to the Ludington contract physician, but for that sum the organization had to be satisfied with a recent graduate from a medical school, and the probability is that it will always have to be content with a comparatively inexperienced man. The doctor now engaged is satisfied, and he should be. He is gaining experience and has a comfortable salary in addition.

Medical Staff Georgia State Sanitarium.—At a recent meeting of the Board of Trustees of the State Sanitarium (for the insane) in Milledgeville, Ga., July 19, 1901, a commission of physicians, consisting of Dr. W. S. Elkin, Dr. James B. Baird and Dr. J. B. S. Holmes, was appointed to conduct a competitive examination, in Atlanta, Ga., Monday, October 7, 1901, of applicants for appointment on the medical staff of the Sanitarium. This examination, required by the laws of the State, is necessary to render applicants eligible for election to any vacancy that may occur on the medical staff, but does not apply to persons now holding office in the Sanitarium. All applications must be filed with the chairman of the commission, Dr. W. S. Elkin, Atlanta, Ga., at least one day before the time set for the

examination. Any member of the commission will cheerfully furnish, upon request, all information relating to the examination that may be desired by any applicant.

New Life Insurance Tables.—The British actuaries have been preparing a new life table based on their experiences from 1863. Some of their figures are now available. The tables which have been provisionally prepared show conclusively that modern conditions have lengthened the time a man may be expected to live, and they show that fewer people per thousand die annually now than was formerly the case. The data on which this is based have been collected from the records of forty-four English and sixteen Scotch companies. The contributing offices each collected their own data and in addition to the cost of preparing this information they contributed \$50,000 toward the expenses of the Joint Committee to which the investigation was intrusted.

The most interesting of the new tables shows how many males healthy at the age of ten years may be expected to live to a green old age. The old table comprised results up to 1863, the new one gives the results between 1863 and 1893, for it has taken eight years to complete these tables. This is the table:

Age.	Old.	New.	Difference in favor of the New Table.
10	100,000	100,000
15	98,224	98,284	60
20	96,223	96,453	230
25	93,061	94,387	1,326
30	89,865	91,942	2,077
35	86,281	88,995	2,714
40	82,284	85,407	3,123
45	77,919	81,262	3,343
50	72,726	76,185	3,459
55	66,513	69,919	3,406
60	58,866	62,073	3,207
65	49,297	52,307	3,010
70	38,124	40,615	2,491
75	25,691	27,752	2,061
80	13,930	15,530	1,600
85	5,422	6,350	927

It will be noticed that the new life table shows throughout a lighter mortality than the old one. Another table of importance shows "expectations after the first five years of insurance."

Age.	Old.	New.	Difference in favor of the New Table.
10	100,000	100,000
15	98,370	96,943
20	96,070	93,893
25	91,380	90,810
30	86,930	87,632	702
35	81,980	84,258	1,278
40	78,650	80,591	1,941
45	74,170	76,413	2,243
50	68,940	71,482	2,542
55	62,650	65,472	2,822
60	55,160	58,016	2,856
65	45,950	48,811	2,861
70	35,330	37,863	2,533
75	23,720	25,861	2,241
80	12,760	14,471	1,711

Actuaries in this city, commenting upon

these tables have expressed the opinion that their direct effect will not be so much upon the premiums charged as upon the valuations of life offices.

"The new table," one of the actuaries said, "will undoubtedly require smaller reserves at a given rate of interest than the old table did, and the offices will be able to lower the rate of interest assumed at their periodical valuations without actually increasing their reserves to the same extent, as would have been necessary had the old basis been maintained. Those offices, moreover, which keep the rate of interest unchanged will have under the new table a larger surplus to divide among their participating policy holders than would have been brought out under the old table."

Obituary.—Dr. Louis Warfield Ritchie, a physician and life-long resident of Georgetown, D. C., died Tuesday afternoon, at the age of fifty-eight years, from Bright's disease. He was the son of Dr. Joshua Ritchie, a life-long practitioner of Georgetown, and an instructor in Georgetown College. Dr. L. W. Ritchie was in the medical department of the army during the Civil War, and performed notable service at Antietam and other fields.

CORRESPONDENCE.

PARIS LETTER.

(From Our Special Correspondent.)

PARIS, September 1, 1901.

INTRARACHIDIAN INJECTIONS OF COCAINE—LETTER FROM BIER TO RECLUS—ANSWER BY TUFFIER—HEAVY TAXES ON PHYSICIANS IN FRANCE.

THE discussion on intrarachidian injections still goes on. The most recent occurrences are the speech by Laborde, the physiologist, at the Academy of Medicine and the one made by Professor Reclus. The latter caused some comment as Dr. Reclus is the great defender of the use of cocaine in minor surgery and even in such operations as laparotomy and kelotomy, and it seemed surprising that he should have proven an adversary of this new method. In a letter he wrote recently to the *Presse Médicale* he stated that he would gladly adopt it when the mortality consequent on its use was proven to be less than that brought about by the use of chloroform, ether, or the local use of cocaine. Dr. Reclus gave also in full a letter he had received from Bier and from which I shall extract the following statements: "I am glad to find that I hold the same opinions as you, the master in the use of cocaine. As applied in France, the new method can only be denounced as one that should not be tried. It was hardly necessary to perform 1,200 operations to come to this conclusion. I formed my opinion after the first six; I cannot understand the enthusiasm which is not dampened by the accidents that have taken place. I should advise the operators to use the injection on themselves, as I have done, and

they might then change their minds. After having tried the method on myself, I abandoned it, but pursued by researches on the subject, and I believe I can now recommend a technic without danger."

Dr. Tuffier, who has been the most determined advocate of intrarachidian cocaine injections in France, considered his method as being attacked and he wrote the following letter to the *Presse Médicale* a few days after the publication of Professor Reclus' letter. He expressed himself in the following manner: "Cocainization, as it has been carried out by Corning and Bier, is a method that is uncertain, blind and dangerous. I should never have dared use it on a human being. I did not find it necessary to gather together 1,300 observations; the first six sufficed, the technic followed out, and the misadventure which happened to one of the authors, whom it was impossible to inject, would have sufficed to calm my enthusiasm and to make me refuse to try it on myself." Dr. Tuffier goes on to say that the same cannot be said of his own technic, which has proved to be sufficiently simple to obtain the favor of his colleagues in all lands, and he has seen both physicians and accoucheurs adopt it. At least a hundred of these injections are made daily, and Dr. Tuffier, taking up Dr. Reclus' words, says that it is this process that he applies with the greatest prudence. If certain surgeons have made rash trials, Dr. Tuffier does not wish to be responsible for their errors or failures, but as for those who have followed out his instructions, he earnestly requests them to publish full statistics for which he declares himself responsible.

Physicians in America are apt to complain of the difficulty of making a living on account of the expenses required by a physician's standing in a community. It may well be asked what most American doctors would think of the heavy taxes which the French medical man is obliged to pay. Every householder in France is obliged to pay a certain tax, but when one has an apartment, one is also obliged to pay a certain percentage of the rent charged. This is the case with most physicians; to cite an example, for a rental of five thousand francs a year or \$1,000, one is obliged to pay about 250 to 270 francs ordinary tax. Besides this there is what is called the *patente*, which medical men are obliged to pay like merchants, and this amounts to a matter of 700 to 800 francs, so that a physician is obliged to pay in taxes about one-fifth of this rent. A good deal of complaint has been made about this, and in a recent article published in the *Presse Médicale* the author said that it seemed unjust to impose such heavy taxes on citizens who often enough gave their services for nothing. But amongst doctors there are a certain number who have to pay very heavy taxes. They are the physicians who practise in watering-places. They are requested to pay not only where they have their office, but also where they live the rest of the year. Professor Pozzi and Dr. Pedebidon, who are senators, have been advocating a new regulation, whereby this

category of physicians would be only charged for their office. Another senator, Dr. Labbé, who is well known on account of the gastrotomy he performed some twenty years ago on a man who had swallowed a fork, goes even further and would have physicians taxed only on the rent they pay for their office. It should be remembered that most physicians in France practise where they live, there being very few who have two separate apartments.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

CANCER OF THE THYROID GLAND—RUPTURE OF THE BLADDER—VESICOVAGINAL FISTULA—CONGENITAL FACIAL PARALYSIS—ANURIA IN PNEUMONIA—HUMAN ACTINOMYCOSIS—ELEPHANTIASIS AND THE EPITROCHLEAR GANGLION—THE RETINA IN ABSENCE OF THE CEREBRUM—STRICTURE OF THE RECTUM—PERSISTENCE OF MECKEL'S DIVERTICULUM WITH FISTULA—LECITHIN AND NUTRITION.

M. PONCET (Lyons), at the Société de Chirurgie, July 24, 1901, read a paper on the subject of cancer of the thyroid gland in which he called attention to the following points. Cancerous degeneration of the thyroid gland is really not a rare affection. True sarcoma of this body is rather uncommon. The forms of cancer usually encountered are of the epithelial type, although the scirrhus has been encountered. Ricard has reported several cases of this which he termed fibrous degeneration after a histological examination. The speaker stated that too much importance must not be attached to purely histological considerations. He felt that in the case of the thyroid gland whenever a hard tumor is encountered, invading the surrounding tissues, vessels, nerves, etc., its malignity should be clinically assumed.

M. CHAUVEL, in behalf of M. Dubujadoux, narrated the history of a case of rupture of the bladder treated successfully with a retention catheter. The soldier had been subjected to violent abdominal traumatism, which was followed by symptoms of rupture of the bladder. All operative interference was declined. Hence the surgeon contented himself with drainage by means of a retention catheter. The symptoms gradually subsided until finally cure resulted. His suggestion that the rupture was intraperitoneal is undoubtedly erroneous in view of the subsequent course of the case. It must have been purely extraperitoneal.

M. BAZY, in behalf of M. de Spartali (Smyrna) detailed the treatment of a vesicovaginal fistula by the process of infolding. A primary attempt at cure was made after the manner of Doyen. On the fourth day an unaccountable hemorrhage required a removal of the sutures before it could be stopped. Six weeks later he extended a transverse incision through the fistula so as to make two lips which were brought together and

folded in upon their deep surfaces. A retention catheter and lateral decubitus for twelve days effected a cure.

M. MARFAU, at the Société Médicale des Hôpitaux, July 26, 1901, contributed a few notes on facial paralysis in the newly-born. He stated that this condition has for its usual cause either instrumental traumatism or pressure on the nerves by the bony maternal canal. There are, however, a certain number of cases which depend upon an arrest of nervous development either in the central or in the peripheral portions of the nerve. Such a case he recently had occasion to observe. The child was born with complete right-sided facial paralysis, accompanied by an anatomical malformation of the cavity of the ear. In a few days the child died and the following findings were made at the autopsy. Peripheral degeneration of the nerve trunks, the petrosal bone malformed and consisting of a mere mass without any attempt at the cavities of the middle and internal ear; absence of the intracranial trunk of the nerve and marked atrophy of the nerve centers at the base of the brain. In this case it may be hypothesized that the first thing to be arrested was the petrous bone which was followed by degeneration of the peripheral nerves, then of its centers in the brain.

M. CAUSSEADE communicated in the name of M. Gilbert and himself the history of a case of anuria occurring during a pneumonia. The patient, a man twenty-five years of age, developed an almost absolute degree of anuria on the third day of the disease. The amount of urine passed during the next seven days was not over 350 grams. On the eleventh day death supervened. The autopsy showed a marked nephritis. The sections of the kidneys revealed a plugging of all the tubules with casts and red blood-cells. The renal lesion did not seem to have any effect whatever upon the course of the pulmonary. Death occurred with symptoms of uremia.

M. PONCET, at the Société de Biologie, July 27, 1901, discussed actinomycosis as it occurs in the human species. He stated that so far as France is concerned it appears with almost equal frequency in the cities and the country and usually in one of the following locations, the cervicofacial region, the ileo-cecal region and the recto-anal region. Every phlegmon in the neighborhood of the teeth, if very hard and especially if it be somewhat old, should be looked upon as probably actinomycosis, particularly if it is near one of the wisdom teeth and is accompanied by a precocious and persistent trismus. A para-abdominal fistulous tract with neighboring indurations, extensive and simulating cancer, especially in the appendiculo-cecal region and manifestly of intestinal origin, also strongly suggests actinomycosis. Similarly indurated phlegmons about the perineum, without much damage to the urinary functions and evidently originating from the bowel are also likely to be due to the fungus.

M. TRIBONDEAU stated that he had recently had

opportunity among the Pacific Indians of seeing fourteen cases of elephantiasis of the hands and forearms alone and had noticed one singular feature with relation to the epitrochlear glands. The process began as a reticulated lymphangitis of the lymph-trunks, usually confined to the ulnar border of the arm and extending upward and suddenly ending at the epitrochlear gland which was usually much engorged, often staphylococci could be obtained from the tissues. The engorged ganglion was at first appreciable only to the touch as a distinct nodule, but soon progressed in size enough to be plainly visible. It then usually continued to grow and finally reached a condition suggesting several superimposed ganglia.

N. VASCHIDE and G. VURPAS, at the Académie des Sciences, July 29, 1901, read a paper on the histological characteristics of the retina in the anencephalous monster recently reported by them. The retina of each side was of normal microscopical arrangement, although the cerebrum was almost totally lacking. The explanation which appears to be the most likely to be true is that the brain developed sufficiently to originate the buds which continue to form the eyes. At this stage the cerebrum ceased to progress and was destroyed by some process similar to inflammation, while the young optic offsets were unfolded to perfection.

M. CHAPUT, at the Société de Chirurgie, July 31, 1901, reported for Souligoux and Lapointe a case of congenital stricture of the rectum which had been complicated with a proliferating and stenosing proctitis. All attempts to dilate from below through the anus had failed. Finally, the stenosis went on to absolute obstruction for the relief of which an artificial anus was made in the left inguinal region. After a while sounds were successfully passed from above, downward and a gradual dilation was in this manner carried out until from below it could be maintained. At this time the artificial anus was closed.

M. POTHERAT in the discussion said that the benefit of the artificial anus in itself in these cases was very great, simply by providing a new outlet for the fecal matter. In one of his cases of obstruction due to productive inflammation he found that this forced rest of the bowel brought about a cure without any other therapeutic measures.

M. KIRMISSON reported a rather rare condition in a child. A small congenital tumor had appeared at the umbilicus, rose-colored, about the size of a nut, soft, discharging abundant mucus, and through a sinus in its center admitting a probe for four centimeters. A laparotomy was done and revealed a Meckel's diverticulum. Resection resulted in cure.

M. G. GARRIÈRE, at the Académie des Sciences, July 29, 1901, called attention to the marked effect on growth and development of children incident upon the administration of lecithin. Weight, stature, strength, excretion of urea and carbonic acid gas, formation of red blood-cells and hematoblasts are all increased. These modifications are all apparent from the beginning of

the treatment, gradually become less, indicating that the organism has grown accustomed to this substance.

SOCIETY PROCEEDINGS.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-seventh Annual Meeting, Held in Boston, June 19, 20 and 21, 1901.

THE Association was called to order by the President, George L. Walton, M.D., of Boston, in the new building of the Boston Medical Library on The Fenway. In his opening address the President announced the deaths of two members, Dr. Irving D. Rosse of Washington, D.C., and Dr. W. L. Worcester of Hawthorne, Massachusetts. Dr. Worcester's death occurred as the result of a septic wound a few days before the session, and a paper which he had intended to read, entitled "A Case of Cerebral Hemiatrophy with Hemiplegia and Aphasia," appeared in the program for this meeting.

Case of Myeloma of the Spine with Compression of the Cord.—Dr. John Jenks Thomas of Boston read this paper. The following history was given. A man, thirty-nine years of age, was attacked by severe pain between the shoulders which lasted four or five days. After that he improved, but there was more or less pain on movement. Six weeks later it was noticed that there was a slight uncertainty in the use of the legs, some numbness of the legs, and a sensation of constriction about the abdomen. Eight weeks after the onset there was slight diminution of sensation of touch and pain below the eighth rib, and a very slight paresis of the legs without any increase of the reflexes. The spine was freely movable and it was not tender, but there was a slight kyphosis in the upper dorsal region. The symptoms increased and four months after the onset and two months after he was first seen he was confined to the bed with a paraplegia with increased reflexes, loss of the sense of pain and temperature and diminution of the sense of touch to the fourth rib, and paralysis of the sphincters. The spine was not tender and motion was fair. There was a slight swelling on the left fifth rib. The patient was operated on by Dr. Munro and a soft reddish tumor mass was found affecting the lamina and body of the fourth dorsal vertebra and destroying the bone. This was removed as far as possible. The wound healed well and the patient regained completely the strength and sensation of the legs and the control of the bladder. The tumor mass was found to be composed of small round cells with large nuclei, very similar to plasma cells, except for the presence of a nucleolus. There was a very fine reticulum. There was about a quarter of one per cent. of albumose and three-quarters of one per cent. of albumin in the urine, with tube casts. The examination of the blood was negative, except for a leucocy-

tosis of 20,000 without relative change of the varieties of white corpuscles and the normal number of red corpuscles and hemoglobin of 70 per cent. The patient was given bone marrow and Coley's toxins. The operation was done six months ago and there has been no return of the cord symptoms. Tender swellings on other ribs have appeared and quieted down, and about six weeks ago there was a return of pain and tenderness in the back of the tenth dorsal spine, with pain passing about the trunk on pressing on the head.

Myelomata are multiple tumors affecting chiefly the spine, ribs, skull and pelvis, developing from the cells of the marrow, composed of cells resembling plasma cells. They usually produce albumosuria, though this is found in other lymphoid affections of the bones as in pseudo-leucemia and leukemia. The most constant symptoms are pains in the back and chest, swellings on the ribs, and deformities of the spine and thorax, sometimes accompanied by compression of the cord. There is no tendency to form metastases, but the disease frequently produces a severe anemia of the secondary type, without megaloblasts in the blood or any marked changes in the number or proportions of the white corpuscles. The interesting features of the case, aside from the rarity of the tumor, are the relief of pressure on the cord by laminectomy, the presence of dissociation of disturbances of sensations, of temperature, pain and touch from pressure upon the cord from without, and the apparent improvement of the condition of the bones from the use of bone marrow and Coley's toxin treatment.

Case of Cervical and Bulbar Tabes with Necropsy.—Dr. William G. Spiller of Philadelphia, with the collaboration of Dr. S. Solis-Cohen, was the author of this paper. In this case syphilis occurred before the onset of the nervous symptoms. There was nocturnal incontinence of urine beginning in 1872 with ptosis of the right upper eyelid in 1879. This could be overcome voluntarily. There was variation in the size of the pupils from time to time; paresis of the facial muscles; difficulty of mastication and deglutition; atrophy of the tongue; disturbance of sensation, especially for temperature and pain; sharp pains in the abdominal region and lower limbs; grayness of the optic nerves and loss of reaction of the irides to light and in accommodation (Edward Jackson, 1888). There was loss of sexual power. The knee-jerks were well preserved. A clinical history of this case was published by Dr. Solis-Cohen in 1889. The symptoms were those of bulbar paralysis; there was general wasting and dissociation of sensation was present. The man worked as a carpenter until within a few weeks of his death. There was no distinct incoordination; station was good. The diagnosis of atypical tabes, made in 1889, was corroborated by the autopsy in 1900. Degeneration of the posterior roots was distinct in the upper and middle thoracic region and in the spinal root of each fifth nerve. There was integrity

of the posterior roots of the lumbar region. Dr. Spiller was of the opinion that the spinal root of the trigeminal nerve would be found degenerated in cervical tabes if it were oftener looked for.

Dr. Joseph Collins and Dr. George W. Jacoby of New York said that they do not find high tabes so very rare. In records of 100 cases of Dr. Collins found five cases of cervical tabes and there was no question of the diagnosis. The poison or toxin of syphilis makes a strong impression on both motor and sensory neurons.

Gunshot Wound of the Spine; Operation; Recovery.—Dr. F. W. Langdon of Cincinnati read this paper. In this case the fifth thoracic vertebra was fractured with penetration of the canal and laceration of the dura. The cord was apparently intact at the operation. Immediately after the accident there was motor and sensory paraplegia with the involvement of the sphincters. The reflexes were abolished, except the plantar which was flexor in direction and sluggish in quality. At the autopsy on the fifth day a central clot in the gray matter was found at the fifth dorsal level; the white matter was fairly preserved in continuity.

Clinical and Pathological Report of a Case of Tabes and Progressive Muscular Atrophy.—Dr. Joseph Collins of New York reported the case of a man with a good early history; gonorrhea but no syphilis; married; one stillborn child. In 1892 he was thrown from a horse, but was not much hurt. He had pneumonia and pleurisy afterward and lost his health. The initial symptom was weakness and numbness of the left hand; atrophy set in; the right hand was also affected. There was no pain. He would drop a pen while at work and was treated for writer's cramp. His bladder was emptied slowly twice daily. Sexual power was weakened. There was numbness in the legs and feet and he could not cross his right knee without assistance. There was wasting below the knee. Pain occurred in the small of the back and was due to weakness of the muscles. There was fornication. He was harassed by sudden drawing up of the muscles of the thigh at intervals of about fifteen minutes from 2 a. m. until daylight. There was gluteal atrophy. The treatment consisted of electric baths and strychnine injections. Dr. Collins believes that the type is not unusual; that its primary seat is in the spinal cord and classes the case as one of true progressive muscular atrophy associated with tabes.

Report of a Case of Chronic Hemianesthesia of Over Seven years' Duration from the Destruction of the Carrefour Sensitif.—Dr. Wm. G. Spiller of Philadelphia read this paper prepared by himself and Dr. F. X. Dercum. The patient was a mulatto, who had been under observation for seven years, having right hemiplegia and right homonymous hemianopsia. The symptoms had followed apoplexy, the resulting hemiplegia being slight. There was no impairment of hearing, taste or smell. There was vari-

ation at different times in the extent of the hemianesthesia in the proximal portions of the limbs, but not in the distal portions. There was some spastic rigidity. Dr. Dercum had diagnosed a lesion of the posterior limb of the internal capsule. Drs. C. K. Mills and G. E. de Schweinitz reported the case in 1869. At that time the patient showed paresis of the right forearm and the fields showed a quadrant hemianopsia. At the autopsy an old cyst was found in the *carrefour sensitif* in the left hemisphere. The thalamus was apparently intact except in so far as it was implicated by secondary degeneration. The motor fibers of the internal capsule were merely slightly implicated. The area affected was studied by several microscopical sections.

Dr. Charles K. Mills gave his opinion regarding the motor and sensory areas of the brain and their boundaries and referred to Schäfer's "Physiology" as presenting these views compactly and thoroughly. He gave credit to the members of the Association for adding to our knowledge of these areas and summoned up the present state of our knowledge under five heads. He instanced the newer observations on the subject of astereognosis and similar phenomena; the studies of the lesions of the superior parietal lobe; facts regarding the *carrefour sensitif* and facts on amyotrophic sclerosis. Mills emphasized the fact that in some of these cases, as in Walton's astereognosis was present without any motor phenomena.

Dr. G. L. Walton believes that we have three sets of sensory areas and that the Rolandic region is not concerned with this. Broca's center is not to be considered in the motor region. The true executive center for speech is at the foot of the Rolandic fissure.

Dr. Mills cited a case of astereognosis without motor paralysis. The autopsy showed in the superior part of the posterior parietal region a large area of disease, not invading the motor zone. He also cited a case of amyotrophic sclerosis. The patient's symptoms were all motor and atrophic. The lesion was pre-central, post-central and in the anterior fourth of the superior parietal convolution.

Dr. F. X. Dercum stated his ground that the sensory fibers occupy a certain position in the internal capsule and are not commingled with any motor fibers, as held by Déjerine. There is no proof that the motor area is in any way an astereognostic center.

Brain Tumor with Unusual Symptoms.—Dr. Wharton Sinkler of Philadelphia reported this case. The tumor was as large as a hen's egg and was attached to the dura over the anterior and posterior Rolandic convolutions. There were no disturbances of pain and temperature sense and only mild motor phenomena. In his case astereognosis was associated with disease of the thalamus.

Dr. C. W. Burr of Philadelphia said that these questions of sensation are the most obscure, judging from the persistent philosophic

quarrel on the subject of sensation among men equally well trained. Men, however, are mostly agreed on the function of the cortex. His own opinion is that the motor cortex of the brain is not also a sensory cortex. Along the fissure of Rolando destruction may occur and only motor symptoms appear; back of this is an area which will give only sensory symptoms if destroyed. By our senses we recognize the qualities of an object; intellectual perceptions are in primary centers; these are situated behind the motor area in the Rolandic region.

Dr. H. T. Patrick of Chicago called for more facts clinically and *postmortem*. The only studies of the stereognostic sense are of recent date. He related a case of astereognosis of one hand, without paralysis and with a minimum of sensory disturbance. Hysteria had been diagnosed in this case. Wherever the lesion is, it does not interfere with motion and very little with common sensation.

Dr. C. L. Dana of New York believes the sensory zone overlaps the motor zone and that the lines have not been sharply drawn. The only question is whether there is an essential identity between motor and sensory centers; or whether the sensory centers are not at all identical with the motor, but posterior to it. He recently had a case in which there was a sarcoma of the left inferior parietal lobe. After removal there was right hemiplegia and very slight paresthesia, but no astereognosis. There was no distinct anesthesia, but a consciousness of disturbance. Loss of muscular sense is due to a lesion of the inferior parietal lobe.

Dr. Mills believes in a strictly limited stereognostic center. He lays great stress on the case of Spiller and Dercum (destruction of the *carrefour sensitif*), a single case studied with the greatest care. He reviewed the older facts supporting separate sensory localization and discussed the bearings on this subject of more recent clinicopathological observations on muscular and cutaneous sensibility and especially on the stereognostic sense, giving his views on the cerebral sensori-motor mechanism.

Acute Multiple Neuritis.—Dr. Charles W. Burr and Dr. D. J. McCarthy of Philadelphia reported the study of a case of multiple neuritis (alcoholic), with incontinence of urine and feces, and death by cardiac failure. The examination of the central and peripheral nervous system revealed besides a parenchymatous degeneration of the vesical nerves, degeneration of the vesical and pelvic plexuses of nerves, of the pneumogastric and phrenic, degeneration of the muscles, selective in character, and perivascular sclerosis in the spinal cord, degeneration extra- and intramedullary of the anterior and posterior roots, widespread chromatolysis of the ganglion cells of the central nervous system and the intervertebral sensory ganglia.

Symmetrical Gangrene.—Dr. C. L. Dana re-

ported the case of a man who had rheumatism in which symmetrical gangrene occurred, affecting his thumbs, hips, toes and shoulder. The gangrenous areas were superficial and painful. The toes broke down, but recovery took place after the use of antirheumatic remedies. Gangrene occurs as a manifestation of many toxic agents.

Dr. Henry J. Stedman of Boston reported a case of symmetrical gangrene of both extremities occurring ten years after syphilis. The endarteritis produced small defects of the skin.

Raynaud's Disease.—Dr. B. Sachs of New York denied that Raynaud's disease is a distinct morbid entity, but is rather a symptom-group. The arterial and venous changes are of prime importance, the nerve changes being secondary. He thought it remarkable that the association of gangrene with general paralysis, as detailed by Stedman, should not be met with oftener.

Dystrophy of the Lower Arm and Hand.—Dr. James J. Putnam of Boston exhibited a remarkable case occurring in a peddler and of five years' duration. He had large shoulder girdle and deltoids and an extraordinary chest with thin muscles. The facial muscles were thin. There was no pain and no assignable cause.

Tumors of the Corpus Callosum.—Dr. Putnam and Dr. E. R. Williams presented a paper on this subject. The first case was that of a woman who had had double optic neuritis; then atrophy of the optic nerve. This was followed by a second attack of neuritis supervening on the atrophy. There was great loss of vision with loss of power in the arms and legs with weakness. There were no localizing signs. She died in coma. The second case was that of a man, aged fifty years, who died six months after the first symptoms in January, 1901. In the previous October there was optic neuritis and in November he was operated on by Dr. J. Collins Warren to relieve isolated epileptic attacks. The paralysis in this case was due to pressure. The third case was a male, aged fifty-six years. He was intemperate and died soon after the symptoms began. He had weakness of the left leg and right leg, but not of the right arm. He had delirium and for ten days could not feed himself. The knee-jerk was diminished at first and early disappeared. There was disturbed mental action. Dr. E. Wyllys Taylor reported on the brains. There were no gross signs of degeneration of the cortex or any changes outside of the tumor itself. The term callosal-ataxia fairly described the case.

Four Cases of Brain Tumor with Unusual Symptoms.—Dr. Wharton Sinkler of Philadelphia reported these. The first case was that of a woman, aged thirty years. At thirteen or fourteen she had something like chorea and was decidedly neurotic. She had been married ten years and had two children. For eight or

nine years she had trouble with her left arm which gave out after use. Three or four years previously she hit her head on the vertex against a door. In 1899 she had religious melancholia. In June, 1899, she had violent convulsions at night. The condition was considered by her physician to be hysterical. She had a second attack two weeks later. Dr. Sinkler saw her in October, 1900, when she had depressed, psychic symptoms and was hysterical. Her gait was spastic; there was no thermal or tactile anesthesia. The knee-jerk was excessive on the left side. There was no diplopia or hemianopsia. In January, 1901, all the symptoms were exaggerated. There was violent ankle-clonus on the left side, but no facial paralysis and no astereognosis. February 4, 1901, optic neuritis was noted by Dr. A. G. Thomson. Dr. W. G. Taylor operated and found an extremely thick skull and profuse bleeding. A tumor was seen springing from the dura. It was removed and the cavity packed and the bone flap replaced. Saline injections and hypodermics of strychnine were used. The patient recovered sufficiently to answer questions and moved the arm and leg, but died six hours later. The tumor occupied the ascending frontal convolution and was a spindle-cell sarcoma of the size of a hen's egg. The case is remarkable for the latency of the symptoms. Dr. Taylor believes it would be better in a case of this kind to open the skull, pack the wound and remove the growth at a later operation.

The second case was a sarcoma of the occipital lobe. The third case was that of a white man, aged thirty-seven years. The trouble began one year ago with dizziness and pain in the left arm and leg. In March, 1901, there was weakness with incoordination of the left arm and leg, paresis of the left face, violent headaches, dizziness, vomiting, numbness of the hand and twitching of the arms. Station was good. There was no astereognosis. The knee-jerk was exaggerated. Ankle-clonus present. The Babinski reflex was present on both sides. There was choked-disk with diplopia, but no hemianopsia. He died of failure of respiration. At the autopsy a tumor was found at the upper part of the temporal and sphenoidal lobe. There were two growths also at the base. The patient was tuberculous but there was no connection between that disease and the growths in the brain. The one at the base was round and hard as a marble and was the cause of the facial symptoms.

The fourth case was in a man, aged fifty years, who had been in good health and worked as an agent for a drug-house. He was an intelligent, well-educated man. In February, 1901, he was in good health, but his sexual desire had been lost for three years. In April he became indifferent, silent and morose. His physician, Dr. W. D. Robinson, was consulted April 15th and found the man extremely

neurasthenic with symptoms of dementia. He began to practise masturbation and was with difficulty controlled. May 20th he became passive and apathetic. The reflexes were exaggerated. There was slow response to light reflex. He developed bed-sores on the sacrum and died June 2, 1901. There was a growth in the right frontal lobe, involving the corpus callosum and extending over into the left side.

Brain Tumor.—Dr. William M. Leszynsky of New York, and Dr. James H. Glass of Utica reported this case. There had been progressive loss of power in the left arm and hand. There was no headache nor vomiting nor diplopia; no injury and no syphilis. The subject was a man of medium height. His pupils were equal and their reactions were normal. There was slight narrowing of the fields with receding papillitis. There was no aphasia. The dynamometer showed 112 in the right hand and 65 in the left. There was no astereognosis. The patient could not stand. He had talipes equinus. The left knee-jerk was exaggerated. There was no atrophy. A slow-growing cerebral tumor was diagnosed and an operation was performed in the right Rolandic area. An endothelioma was removed. There was subsequent complete paralysis of the upper left extremity—with muscular rigidity—in the left side. The response to motor impulses was delayed. There were muscular twitchings of the hand and arm with consequent fatigue. He continued to earn his living as an accountant, though permanently hemiplegic.

Dr. Graeme M. Hammond exhibited a plaster cast of a cerebellar tumor.

Traumatic Convulsions. Cranial Operation. An Interesting Pathological Condition. Recovery.—Dr. Frank R. Fry of St. Louis presented the case of a young woman who had received a violent blow on the left forehead when sixteen years of age. Was seen by the writer four years afterward. During all the four years since the accident she had been having hysterical seizures of a typical kind; severe headache, focused at the point of trauma; an increasing mental and physical lassitude. There were no hysterical stigmata of any kind. She had always been perfectly healthy and strong before the accident. The family history was not especially neuropathic. An opening was made in the skull $2\frac{1}{2}$ by $2\frac{1}{2}$ inches. The exposed field of pia-arachnoid showed some slight exudation. When the finger was introduced under the edge of the opening adhesions were found between the dura and pia-arachnoid in every direction. These were broken up with considerable hemorrhage. The wound healed by first intention, the dressing not being disturbed for two weeks. The change after the operation was marked. The patient was cured. No headache whatever, no more convulsions. The operation was nearly two years ago and the patient is still perfectly well. The

case was compared with a similar one reported by Dr. C. B. Burr, in the proceedings of the American Medico-Psychological Association, 1900. The question of operation in cases of this character was discussed. Useless in hysterical situation to try to formulate any rules for operation except two: (1) If in any case there is doubt about the traumatic origin of hysterical or other psychical symptoms, or of the possibility of surgical relief, the patient should have the benefit of the doubt by an operation. (2) To determine these matters the case should be thoroughly canvassed by a neurologist.

Intracerebral Osteoplaque, with Report of a Case and Exhibition of Specimen.—Dr. Samuel Ayres of Pittsburg exhibited a patient who was an active business man, fifty-four years of age, without specific or traumatic history; having used alcoholic stimulants quite regularly, but not to excess. He had been dyspeptic for many years but had not been troubled with headaches until a month or so previous to his death. His last illness was ushered in by a severe attack of vertigo; soon followed by intense headache in the occipital region. There were no paresthesias or other localizing symptoms whatever. He became delirious and died in coma. The autopsy revealed a large disc of bone adherent to the falx cerebri, from which it was easily separated, compressing the paracentral lobule. This disc, composed of dense bone, was nearly circular in outline, plano-convex, measuring about two and one-half centimeters in diameter, and nearly one centimeter in thickness near the center, from which it shaded off to a narrow edge. The bony plate might have been reached with great difficulty by an operation, but the absence of focal symptoms precluded the possibility of locating the foreign body.

Dr. Sachs remarked upon the surprising adaptability of the brain to pressure from tumors. He cited a case under observation for three and a half years with blindness and dementia for one and a half years. The patient was indifferent to her surroundings and her mental condition was nearly a blank. Now the patient is as bright as previously. There was central scotoma in one field and loss of half vision in the other. After six months there was optic neuritis and then atrophy which has caused permanent blindness. Dr. Sachs believed that operations for the relief of pressure should be encouraged. There was great pain in the branches of the trigeminus and for this a trephine opening was made in one side of the tumor as it presented in the parietal region. The pain was relieved and yet no further attempt could be made to remove the growth. The hemorrhage was great and so the operation was abandoned.

Dr. Mills spoke of tumors of the callosum giving rise to mental symptoms, mental ataxia, etc. He stated positively his opinion

that time was lost by surgeons in these operations. No lectures should be given at the time and no consultations should be held. Surgeons should be more expeditious. There should be no delay in the operation and this not simply to avoid hemorrhage.

Tumor of Cerebellum.—Dr. Joseph Sailer reported this case. The patient was twenty-one years old and had a dizzy headache of the right side. There was a tendency to fall to the left. There was no difficulty in swallowing and no difficulty with the bladder or rectum and no aphasia. The pupils were dilated, with slight lateral nystagmus and slight convergence. There was slight double ptosis; slight optic neuritis. There was double ophthalmoplegia interna. There was no astereognosis nor vomiting. There was gradual loss of memory. There were choriform movements. At the autopsy a tumor was found involving the worm of the cerebellum and measuring 4x3x2.5 cm. It was not very vascular and involved only the posterior portion of the corpora quadrigemina. The anterior portion was not involved.

The Prognosis of Traumatic Hysteria Based upon the After-Histories of a Number of Litigated Cases.—Dr. Pearce Bailey of New York read this paper. He classes hysteria among the delusional insanities. The first case he reported was in a farmer who met with a slight accident after which he became depressed, tearful, apathetic and had a tendency to stagger to the right. At the end of four and one-half years he still has an unsettled claim for damages. The second case was in an actress who had a railroad accident in which she suffered no cuts or bruises. Left hemiplegia and left hemianesthesia ensued. She eventually resumed her vocation. The next case was in a young girl subject to hysteria and chorea. She met with an elevator accident, falling thirty feet; she was not cut nor bruised. Right hemiplegia followed. She recovered \$11,500 after which she was married, but walked with a cane. The next case was similar and recovered after receiving a verdict for \$4,000. The fifth and sixth cases were accidents from electric shock. The seventh case had lip hemiplegia following hysterical convulsions caused by being thrown from a cart. The hemiplegia switched to the opposite side. He became deaf and dumb. His case was settled out of court, but he was still deaf and dumb one year afterward. The next case occurred March 20, 1900. The man was run into by a trolley car while in a cart. There was a slight injury to the head. He had traumatic hysteria and was seriously incapacitated. He received a verdict for \$400 and four months later was at work. Dr. Bailey believes that it is impossible for most of these cases to get well so long as money is at stake, but that is a very different thing from holding that it is the whole cause. The symptoms may last for years and the pa-

tients are not always gallery players. Moving the patient from home for treatment is not necessary in all cases.

A Case of Hysterical Paralysis Associated with Black Chromidrosis.—Dr. J. W. Putnam of Buffalo read this paper. Patient, aged nineteen, in good health till eighteen years old, was affected with black chromidrosis for several months. Cheeks and eyelids affected. Later a hysterical paralysis of both legs occurred, which lasted one week. After several months of treatment patient recovered from chromidrosis.

Chorea with Embolism of the Central Artery of the Retina, with Short Review of the Embolic Theory of Chorea.—Dr. H. M. Thomas of Baltimore read this paper. Girl, age sixteen. Family and personal history unimportant. No rheumatism. Seven weeks before admission, right hemi-chorea developed. Sudden blindness in the left eye at about the same time. Ophthalmoscopic examination showed typical picture of embolism of the central retinal artery. Dilated heart with systolic murmur. The ocular complications of chorea. Embolism of the central artery, rare. Seven more or less accurately reported cases in literature. The embolic theory of chorea. Kirkes, Hughlings-Jackson, Broadbent, and others supported it. Dickson and many others opposed it. The seat of the lesion the corpus striatum? cortex? or some other part? No definite data to determine. Suggestions that it is to be looked for somewhere else than in the cortex. Possibly on the afferent side of the mechanism upon which coördination depends. Modern views as to the morbid agent.

Dispensary Treatment of Mental Diseases.—Dr. Walter Channing of Boston read this paper. Insanity requires social as well as medical treatment. For some years the writer has made an effort to help in the solution of the problem of why insanity is increasing and how it can best be treated. Several ways of accomplishing this object. (1) Through discussions in medical and lay societies. (2) Instruction by means of didactic and clinical lectures to students. (3) By the investigation and treatment of patients with more or less mental disturbance in the general community. To accomplish the third object a department of mental disease was established at the Boston Dispensary, December, 1897. Many cases of insanity, both incipient and developed, have been sent to it by the staff and physicians of all the public institutions in Boston. Also cases of neurasthesia, simple depression, alcoholism, defective children, etc. The study of defective children has gradually become an important branch of the work. At present no physicians make a speciality of examining such children. We have, therefore, no system by which a thorough examination can be made and serve as a basis of an expert opinion. The number of defective children in the city is considerable.

Many go unrecognized and later develop into imbeciles, tramps and criminals. The women often become the mothers of illegitimate children. Any means whereby a considerable number of these children can be culled out from the general population and properly treated would be of great public benefit. The work of the Mental Department at the Dispensary has shown the writer that there are more unsuspected cases of insanity of both an acute and chronic nature in the general community than he had supposed. Some incipient cases have been prevented by prompt treatment; others have been cured in a short time either at home or at the hospital. Dangerous cases have been committed. Consultations have been held with members of the staff and patients have been seen with the district physicians at their homes. The opportunity to give instruction to students of the early symptoms of insanity and of the relation of mental to other diseases has been a valuable one, and an important aid to the writer in his course of mental diseases, part of which has been given at the Boston Insane Hospital. Much time has been spent in the examination of each patient which in the crowded clinics of the other departments is less possible. Experience has proved that in the city of Boston there is plenty of material for a mental clinic, and it should be an advantage to the general work of a large dispensary to group cases together for purposes of study and investigation or record, as has been done at the Boston Dispensary.

Dr. Guy Hinsdale of Philadelphia spoke of the successful work of the mental clinic first established in this country at the Pennsylvania Hospital. Mental cases cannot be handled successfully in a general clinic and it is better for the patient to go to a special clinic where physicians can more readily elicit the facts pertaining to this peculiar class of cases. Neurologists can thereby command the advice of alienists in given cases and the admission of such patients to suitable institutions will be facilitated. The medico-legal side of the subject is one of the best reasons for the existence of a mental clinic.

A Case of Fear of Insomnia.—Dr. Edward Cowles of Waverley reported the case of "phobia" existing for years, with resort to devices for seclusion at night and for promoting sleep. Nature of obsessions explained, the imperative idea precisely pointed out, proper substitute suggested, immediate correction of disordered association-process, and recovery. Such primary disorders of physiological mental processes are very common in normal subjects; not necessarily manifestations of constitutional neuropathetic instability. Subjects of acquired or hereditary neurasthenia only more susceptible to influences causing such "dissociations"; insistent and imperative ideas, in various forms, more frequent and striking, but only further modifications or ex-

aggerations in the workings of fundamental elements common to all minds. These affections should not be conceived and classified as essentially neuropathetic.

Two Cases Illustrating the Early Association of Mental Aberration with Syphilitic Infection.—Dr. H. A. Tomlinson of St. Paul recorded the clinical history and *postmortem* findings in two cases of insanity having a comparatively recent history of syphilitic infection, with no apparent involvement of the general nervous system in the one, and marked motor disturbance in the other. The *postmortem* examination in the case of the motor disturbance showed no evidence of gross lesion, while in the other cases without apparent somatic involvement there were a number of gross lesions. The association in these two cases of marked degenerative change in the vegetative organs and their influence on the mental manifestations. The absence or slight development of the ordinary manifestations of syphilis in cases of associated insanity is the experience of the writer.

A Case of Dislocation Forward of the Seventh Cervical Vertebra.—Dr. Frank R. Fry of St. Louis reported the case of a man, thirty-seven years old, who fell from a hammock. Was immediately paralyzed. Examination showed a total paralysis below the seventh cervical segment. The first consultation and serious consideration of the case was twenty hours after the accident. Then a systematic and careful manipulation failed to reveal any injury to the bones. A diagnosis of hematomyelia seemed probable, and it was decided to attempt no further examination. One of the consultants took issue, however, insisting that an exploratory incision should be made, especially as an X-ray examination was not available. The patient lived one week. Suffered very little until the last three days. *Postmortem* revealed a forward dislocation of the cervical, its articular facets having just cleared those of the first dorsal. A brief consideration of the special liability of the seventh cervical to this kind of dislocation. The position is taken by the writer that an exploratory incision is the only positive method of diagnosis in similar situations.

Synopsis.—Dr. W. L. Worcester of Hawthorne, Mass., who died a few days previous to the meeting had announced a report of a case of cerebral hemiatrophy with hemiplegia and aphasia, in an adult. Woman, insane at twenty-four years of age, with katatonic symptoms. Recovered, and remained well up to the age of forty-nine, when she had another attack, with similar symptoms to the first. After having been under treatment for this attack for nine months, she had a series of severe convulsions, which left her with right hemiplegia, aphasia, both motor and sensory, and profound dementia. Death, nineteen months later, following another series of convulsions. At

autopsy, no focal lesion found. Great atrophy of left cerebral hemisphere and right hemisphere of cerebellum; moderate descending degeneration of the corresponding pyramidal tract. Appearance very similar to those found in same cases of infantile hemiplegia.

Dr. Edward Wyllys Taylor of Boston presented histories of three clinical cases as follows:

A Case of Polienccephalomyelitis.—Man of twenty-seven, previously well. Influenza in December, 1897. At this time insidious onset of various paralyses, fully developed by March 1, 1898. When examined in December, 1899, the following changes were observed: Paresis of motor portion of right fifth nerve, of all branches of right seventh nerve; paralysis of right external rectus (sixth nerve), paresis of left external rectus; impairment of hearing, especially on right side; paralysis of left recurrent laryngeal nerve; paresis of tongue; marked muscular atrophy of both arms, especially in forearms and hands. R. D. in distribution of cranial and spinal nerves. Insignificant sensory disorders. Improvement under treatment.

The Central Nervous System in a Case of Cancer of the Breast.—Woman of forty-four. Carcinoma of breast; metastases in vertebræ. Much weakness of legs, associated with *absent knee-jerks* and areas of disturbed sensation. Microscopic examination shows marked degenerative changes in ventral horn nerve-cells throughout the cord (Nissl) with secondary ascending degeneration, slight in amount, in the dorsal columns. Motor weakness and absent deep reflexes probably to be explained by alterations in the ventral horn cells, peripheral motor neuroses.

Poliomyelitis of the Adult.—Man of twenty-five, previously well. October 11, 1898, vague feelings of discomfort. Two days later somewhat sudden onset of loss of power in legs, associated with high temperature. Later arms became involved, with some difficulty in respiration. Diagnosis at hospital "Landry's paralysis." Paralysis was flaccid, with absent knee-jerks. Slight improvement in certain symptoms. Death about three months after onset of disease. *Microscopic examination:* Disintegration of ventral horns throughout the cord, extending in less degree to dorsal horns. Abundant evidence of violent inflammation, with extensive destruction of nerve-cells. Marked degeneration of nerve-roots and of sciatic nerve. White matter of cord uninvolved. The confusion of this condition with so-called "Landry's paralysis" is unjustified.

At the business session the following officers were elected for 1902: President, Dr. Joseph Collins of New York; Vice-Presidents, Dr. H. T. Patrick of Chicago and Dr. J. T. Eskridge of Denver; Secretary and Treasurer, Dr. Graeme M. Hammond of New York; Member of Council, Dr. G. L. Walton of Boston.

A note was adopted relative to the death of Dr. Landon Carter Gray, a former president of the Association and its representative to the Executive Committee of the Congress of American Physicians and Surgeons.

The date and place for the meeting of the Association in 1902 are left to the decision of the Council.

BOOK REVIEWS.

THE HYGIENE OF TRANSMISSIBLE DISEASES: THEIR CAUSATION, MODES OF DISSEMINATION AND METHODS OF PREVENTION. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology, University of Pennsylvania. Third Edition. W. B. Saunders & Company. Philadelphia and London.

THE fact that Dr. Abbott's book has reached a third edition in the short time since its original publication is a proof of the popularity of the work. The sections, especially on malaria, yellow fever plague, filariasis, dysentery and tuberculosis, have been revised and enlarged. The need for revision and enlargement of so many chapters in so short a time is a good index of the rapid advance in medical science at the present day. Dr. Abbott has succeeded in presenting a large amount of information in a small space. Most of the matter is taken from Dr. Abbott's lectures on Hygiene at the University of Pennsylvania, yet the subject is presented in a very readable way and without obtrusive technicalities. There is about the work in places an air of its having been written for the public rather than for the medical profession. The popularizing of information on hygiene is, however, one of the desiderata of the present generation when newspaper advertisements and other undesirable media are scattering supposed medical knowledge with an evidently interested motive.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, etc., by Leading Members of the Medical Profession Throughout the World. Edited by HENRY W. CATTELL, A.M., M.D. Volume II., Eleventh Series. J. B. Lippincott Company, Philadelphia.

THE feature of the present volume of the "International Clinics" is Dr. J. F. Schamberg's (Philadelphia) article on "Smallpox, With Particular Reference to the Present Epidemic." This is illustrated by an excellent colored plate of a mild case of smallpox, such as has been most commonly seen during the present epidemic. In this case the grouping of the smallpox lesions on the face, and especially about the lips and nose, was such as to make the affection resemble rather closely febrile herpes. The article is illustrated by five other plates in black and white of typical smallpox eruptions. The differential diagnosis of smallpox is discussed fully, yet briefly, and with the present prevalence of the disease the points

given can scarcely fail to prove helpful to those whose opportunities for the clinical observation of smallpox have been very limited.

There are two clinics on the subject of spinal analgesia. One of these is by Professor Tuffier of Paris, who first employed the method extensively enough to bring it prominently before the medical world. His conclusion as to the method is that whatever may be the field that surgeons shall ultimately assign to analgesia by means of spinal injections of cocaine, it will undoubtedly remain in practice by the side of local and general anesthesia. Professor Tuffier has now employed spinal analgesia in 252 operations, of which 142 were intraperitoneal and 110 extraperitoneal. Perhaps the most striking bit of statistics he gives is that 22 of the cases were private patients.

Dr. Doléris, accoucheur to the Paris hospitals, says that lumbar injections of cocaine have an oxytocic effect and are particularly prone to produce labor. He sums up the result of his observations as follows: (1) The lumbar injection of cocaine is contra-indicated for the execution of any operation during pregnancy, for miscarriage might ensue. (2) A new method of bringing on labor has been found in the use of these injections. (3) This process may render great service in case of uterine inertia during labor, particularly with a moderately contracted pelvis. (4) In eclampsia, when rapid evacuation of the uterus is indicated, the lumbar injection ought to be efficacious and may have a happy effect on the nervous reflex symptoms. This is a new field of usefulness that may prove of practical importance.

ATLAS OF THE NERVOUS SYSTEM. Including an Epitome of the Anatomy, Pathology and Treatment. DR. CHRISTFRIED JAKOB, Head of the Pathologic Institute for Nervous and Mental Disease at the University of Buenos Ayres; Formerly Assistant in the Medical Clinic. Ed-langen. Edited by EDWARD D. FISHER, M.D., Professor of Diseases of the Nervous System, University and Bellevue Medical College, New York; etc. W. B. Saunders and Company, Philadelphia and London.

This is the authorized translation from the second revised German edition of the well-known German Atlas of the Lehman series of atlases. Dr. Fisher, the American editor, says in the preface that he knows of no work in which so much is compressed within so small a space. The book is comprehensive and practical. The work is certainly calculated to give a very good general idea of recent progress in neurology and brain pathology. The subject is, however, a large one and there are evident signs of the compression that has had to be practised. Somehow an impression remains after looking over the volume that, while it would add very little to the specialist's knowledge, too many details have been crowded into too small a space for it to be very practically instructive for the ordinary practitioner who takes up the book with no knowledge of nervous diseases.

The illustrations, especially those in colors, are beautifully reproduced and the accompanying tracings make excellent guides in brain anatomy and pathology. The illustrations from various cases of special disease of the nervous system are well done as regards plates and text, though it is in this portion especially that there are signs of compression which are almost too noticeable. The volume is an excellent example of good book-making at a reasonable price.

PATOLOGIA E CHIRURGIA DEI TRAUMI DEL RICONFIAMENTO LOMBARRE, DEL CONO TERMINALE E DELLA CODA EQUINA. By Prof. D. B. RONCALI. Editrice Dante Alighieri.

THE author of this book, Professor Roncali, is better known in America for his investigations with regard to the etiology of cancer than for work in the surgery of the nervous system. Of late years, however, he has published several books on this subject and in connection with Professor Durante's surgical clinic at the University of Rome has notably illustrated several important subjects. The present volume contains a very good review of our knowledge to date of the physiology, pathology and surgery of the lumbar enlargements, the conus terminalis and the cauda equina of the spinal cord. It is eminently a book for specialists and the indications and contra-indications for laminectomy should prove of practical value now that surgeons no longer consider injuries of the spinal cord beyond their domain. Some of the cases detailed are of great clinical interest because they represent types of unusual traumatic conditions.

MT. SINAI HOSPITAL REPORTS. Vol. II., for 1899 and 1900. Edited for the Medical Board by PAUL F. MUNDÉ, M.D., LL.D.

THE second volume of the Mt. Sinai Hospital Reports is a worthy successor to the first in that it gives a clear account of the excellent work done in that institution and that it enriches medical literature by a series of papers on interesting and exceptional cases. J. Rudisch reports the case of a patient with diabetes mellitus, acromegaly and excessive polyuria, in whom hyperidrosis was a troublesome symptom which persisted despite the administration of agaricine, opium, camphoric acid and petuitary extract; sugar could not be found in the perspiration. The second case is one of diabetes insipidus in which an enormous amount of urine—1010 fluid-ounces—was excreted on one day, and which was completely cured by suggestion; and the third an ambulatory typhoid complicated by bronchopneumonia with delirium and petechial eruption producing a picture resembling typhus.

J. Rudisch and E. A. Aronson in a short statistical article find that diabetes is not altogether a disease of the race, but rather of the class, since far more Germans of the higher class than Russians of the poorer were afflicted, despite the fact that most inmates of the hospitals belonged to the

latter. The relationship of fistula *in ano* to tuberculosis is discussed by Alfred Meyer who finds that 0.87 per cent. of cases of pulmonary tuberculosis observed had a fistula, and *vice versa* 9.3 per cent of fistula cases were consumptive. The frequency of the smegma bacillus in the fistulae is emphasized and prolonged immersion in absolute alcohol or animal experiment is necessary to determine the presence of the tubercle bacillus. M. Manges insists upon the not too infrequent occurrence of typhoid fever together with pharyngeal diphtheria, despite frequent statements to the contrary, and draws attention to Bouveret's ulcers of the pharynx which he has seen in one case.

"Acute Lobar Pneumonia Followed by Purulent Pericarditis; Pericardotomy; Recovery," is the title of a paper by M. Manges and H. Lilienthal; the conclusions which these authors draw are that in these cases eucaïne is the best local anesthetic and that the apparently simple operation of tapping is in reality more dangerous than incision, since the motions of the heart are not unlikely to cause tearing of a coronary vessel by the needle. M. Manges also contributes the notes on a case of exophthalmic goiter with diabetes mellitus and pigmentation and one of rheumatoid arthritis, with exophthalmic goiter in a girl sixteen years old, which are interesting on account of the rarity of the conditions.

N. E. Brill's paper on "Pneumonia and the Acute Hemorrhagic Diathesis" goes to prove that the latter is a rare accompaniment of the former in man, that it occurs more often with the streptococcus than with the pneumococcus and that it is more frequent after the decline of the pneumonia. A most careful bacteriological examination is evident from the article by N. E. Brill and E. Libman on a case of staphylococemia followed by systemic pyocyanus infection; it constitutes the first case in which these findings were made in an adult. The same authors also contribute on the subjects of chronic interstitial nephritis and arteritis in the young with a note on calcification in the liver.

Gliosarcoma of the base of the brain is most ably discussed by H. W. Berg, who points out the necessity of determining the side on which these neoplasms are situated by the cerebellar symptoms and the result of the involvement of neighboring structures, before operating. D. H. Davison's article is on the subject of purpura hemorrhagica.

The report of the surgical and gynecological divisions includes a short account of the subdivision of the work among the staff, the provisions for asepsis and antiseptics in the operating-room, and a review of the many interesting cases and operations during the year. H. Lilienthal relates a case of simultaneous fracture of the vault and base of the skull with recovery and H. Brettauer three cases of primary carcinoma of the vulva.

Three articles written by E. Gruening speak well for the ophthalmic and aural divisions; the first deals with the rarity and the pathological findings of tubercle of the choroid in tuberculous

meningitis; the second is instructive for the early recognition of choroidal sarcoma, and the last is a report of two successful operations for otitic brain abscess. C. H. May and C. Koller have also contributed, the former on mastoid operations, the latter on a case of thrombophlebitis of the left sigmoid sinus masking a latent brain abscess which ultimately ended fatally despite operation. These are followed by E. H. Eising's report of anesthetics during 1900 which demonstrates the greater preference for chloroform over ether. Spinal anesthesia apparently has not found much favor among the surgeons, since but three cases are recorded. The interesting volume closes with a paper on the etiology and embryology of dermoid cyst of the mediastinum by F. S. Mandelbaum, with report of a case.

ANATOMICAL ATLAS OF OBSTETRICS WITH SPECIAL REFERENCE TO DIAGNOSIS AND TREATMENT. By OSKAR SCHAEFFER, Privat Docent in Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Second Revised German Edition. Edited by J. CLIFTON EDGAR, A.M., M.D., Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. W. B. Saunders & Co., Philadelphia and London.

IN THE preface the editor states that in the original Dr. Schaeffer's "Atlases" were most successful and he sees no reason why they should not be equally popular in the English language and we quite agree with him, since the volume before us will be invaluable for the student, not so much for his first insight into the department of obstetrics, but as a book of reference to be used in conjunction with the larger treatises. The lithographic plates can unhesitatingly be pronounced works of art and the schematic drawings lack nothing in accuracy. For a book whose main features are intended to lie in its illustrations, the text is remarkably full and concise. We are glad to see that that much-neglected subject, obstetrical pathology, receives some credit, though not as much as we would desire.

HOW TO COOK FOR THE SICK AND CONVALESCENT. Arranged for the Physician, Trained Nurse, and Home Use. By HELENA V. SACHSE, Graduate of the Philadelphia Cooking School. J. B. Lippincott Company, Philadelphia.

THIS is a collection of receipts of the best class based on certain dietary principles which are stated in the preface. The opening chapter deals with foods containing no starch or sugar or only a little sugar, and gives a short talk on utensils, weights and measures. Then follow chapters on meat preparations, milk, peptonized foods, drinks, toasts, soups, gruels and mushes, eggs, sweet-breads, fish, mushrooms, breads, desserts, etc. There are many palatable dishes for diabetics, and other foods that would be tempting to the invalid's palate. Formulæ for Kumyss, lime-water and other sick room necessities are given.